

CATALOGUE

OF THE

UNIVERSITY OF PENNSYLVANIA.

1873-74.



UNIVERSITY OF PENNSYLVANIA.
MEDICAL DEPARTMENT.

CATALOGUE

OF THE

TRUSTEES, OFFICERS, AND STUDENTS

OF THE

UNIVERSITY OF PENNSYLVANIA.

1873-74.



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1874.

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GENERAL STATEMENT.

Instruction is given in the UNIVERSITY OF PENNSYLVANIA in four different Departments, viz.:—

THE DEPARTMENT OF ARTS.

THE DEPARTMENT OF SCIENCE.

THE DEPARTMENT OF MEDICINE.

THE DEPARTMENT OF LAW.

BUILDING, APPARATUS, ETC.

The Trustees of the University have erected for the accommodation of the Departments of Arts and of Science, one of the largest and most conveniently arranged college buildings in the country. This building stands in a square of ground containing more than six acres, and is about two hundred and sixty feet front, by more than one hundred in depth. It was planned with special reference to the greatly increased number of rooms required for the full development of that elective system of studies which has now become the settled policy in the Department of Arts, as well as for the purpose of affording every facility for teaching Science in its applications to the Arts.

The students in these two Departments are under a common government and discipline, and are in constant association with each other. The instruction, however, in each Department is in charge of a distinct Faculty, and both the objects of that instruction and the methods of imparting it differ essentially.

By reference to the annexed diagrams, it will be seen that more than forty large rooms, admirably lighted and ventilated, have been provided for the accommodation of the students in these two Departments. The Faculties are now full; the best means of illustrating

their teaching have been provided ; the Libraries have been greatly increased ; Cabinets of Mineralogy, Geology, and of Mechanical Models have been added ; and other and extensive improvements are in contemplation, with a view of enlarging the scope and promoting the efficiency of both Departments.

THE DEPARTMENT OF ARTS is designed mainly to give that comprehensive and liberal culture, and to secure that mental training and discipline which was until recent years the sole aim of the best known American colleges. The methods by which these objects are sought have been enlarged here by the adoption of a carefully arranged elective system, by the introduction of new subjects of study (notably the modern languages), and by giving greater prominence to certain old ones.

THE DEPARTMENT OF SCIENCE, while not neglecting the general liberal education of the student (as will be found hereafter more fully explained), aims chiefly to teach him the principles of natural and physical science with their applications to the arts of life.

THE DEPARTMENT OF MEDICINE.—The Trustees are erecting on Thirty-sixth Street, south of Locust, for the use of this Department, a Hall of very large dimensions, which is arranged for the convenient accommodation and instruction of students in accordance with plans based upon long experience here, and which will be supplied with all the approved means of research and investigation.

Adjoining this building a large Hospital is being erected by the Trustees, which will be placed in charge of the Medical Faculty. This Hospital will prove an invaluable means of clinical instruction.

It is expected that both the Medical Hall and the Hospital will be completed and ready for occupancy during the month of September, 1874.

THE DEPARTMENT OF LAW has been recently reorganized with a view of enlarging its aims and rendering more systematic the instruction given by it.

DEPARTMENT OF ARTS.

I.

FACULTY.

CHARLES J. STILLÉ, LL.D., Provost, and Professor of History and English Literature.

REV. CHARLES P. KRAUTH, D.D., Vice-Provost, and Professor of Intellectual and Moral Philosophy.

GEORGE ALLEN, LL.D., Professor of the Greek Language and Literature.

FRANCIS A. JACKSON, A.M., Professor of the Latin Language and Literature.

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FRANCIS A. JACKSON, Secretary.

II.

TERMS OF ADMISSION.

To be admitted into the Freshman Class of the Department of Arts, a student must be at least fourteen years of age, and pass a satisfactory examination on the following subjects and authors:—

ENGLISH.—Ancient and Modern Geography (Labberton's Historical Atlas is recommended). English Grammar.

GREEK.—Greek Syntax and Prosody. *Xenophon* (Four Books of the Anabasis). *Homer* (First three Books of the Iliad). [Also at the examination in 1875 and thereafter, *Jones's Exercises in Greek Prose Composition*.]

LATIN.—Latin Syntax and Prosody (A practical familiarity with the scanning of Hexameters). *Cæsar* (Three Books of the Gallic War). *Virgil* (Six Books of the Æneid). *Cicero* (Four Orations against Catiline). *Horace* (First Book of the Odes).

MATHEMATICS.—Arithmetic, Elementary Rules of Algebra, including Simple Equations. Decimal System of Weights and Measures.

The students in the Department of Arts are distributed into four classes, viz.: the Senior, the Junior, the Sophomore, and the Freshman Classes.

The examinations of Candidates for admission will be held for the current year on Monday and Tuesday, June 22d. and 23d, at the hours and upon the subjects stated in the following schedule. Candidates must be punctual in their attendance at the hours named, and should also be present on Wednesday, June 24th. at one o'clock, to learn the result of their examinations.

ON MONDAY, JUNE 22D. from 9 o'clock to 11—A written examination in Arithmetic (especially—*The Simple Rules, Vulgar and Decimal Fractions*, and *The Extraction of the Square and Cube Root*): And in Algebra (*To Quadratic Equations*, as in Alsop's Algebra. to p. 152, including *Proportion, Progression, Surds, Imaginary Quantities*, and *The Binomial Theorem*).

From $11\frac{1}{4}$ to $12\frac{1}{4}$ —A written examination in *Greek Grammar*.

From $12\frac{1}{2}$ to 2—A written examination in *English Grammar* and in *Ancient and Modern Geography*.

ON TUESDAY, JUNE 23D, from 9 to 12—Oral examinations upon the following subjects and authors—

IN GREEK—Upon the *first four books of Xenophon's Anabasis* and the *first three books of the Iliad*.

IN LATIN—Translation, Syntax, and Prosody.

Applicants for admission to the SOPHOMORE OR JUNIOR CLASSES will, in addition to the above, be examined as follows:—

ON TUESDAY, JUNE 23D, from 9 to 12—Oral examinations on the following subjects and authors.

IN MATHEMATICS—On *Alsop's Algebra* (to the end of *Quadratic Equations*, pp. 1-183.—With especial reference to the *Definitions* and the *Solution of Quadratic Equations* by "*Completing the Square*"): And on the *first eight books of Davies' Legendre's Geometry*, excepting the *Second*, and not including the *Practical Applications* at the end of Books III. and IV.

IN FRENCH—On *Selections from Collot's Pronouncing French Reader; Smith's Guide to French Conversation* (selections); and *Brégy's Compendium of Grammatical Rules* (First Part).

From 12 to $1\frac{1}{2}$ —Oral examinations—IN GREEK—Upon *Xenophon's Hellenics* (II. 4, IV. 2, 3, VI. 4, §§ 1-16, and VII. 5), and *The Clouds* of Aristophanes.

IN LATIN—Upon *Livy* (*Selections from the Tenth, Twenty-first, and Twenty-Second Books*. Horace, *Select Satires*: with the notes and explanations, as contained in the *Freshman Syllabus*).

IN HISTORY—Upon *Freeman's Outlines of History*, or *Weber's Outlines of Universal History*.

From 1½ to 2½—A written examination on *The Rules of Latin Translation* and *The Rules of Syntax to p. lvi*.

Applicants for admission to the JUNIOR CLASS, who pass the above examinations satisfactorily, will have special appointments made for their examinations upon the studies of the *Sophomore Year*.

A second examination of applicants for admission will be held on days to be hereafter publicly announced previous to the beginning of the September Term.

☞ As candidates are often found deficient in *Ancient and Modern Geography*, it may be well to remind them that the same examination in these subjects is required of them, whether they apply for admission to the Department of Arts or to that of Science. The examination will include in its questions, “*General Geography*” and, more minutely, that of *Modern Europe*, with particular reference to points of importance in the study of Modern History : and such portions of *Ancient Geography* as are necessary to the intelligent study of Ancient History : Particularly, the chief states, cities, rivers, mountain-chains, and adjacent waters and islands, of Asia Minor, Greece, and Italy.

All the students in the Department of Arts who are candidates for the degree of Bachelor of Arts, pursue the same studies during the Freshman and Sophomore years. For the remaining two years of the course a limited election or choice of various studies is permitted under the following rules :—

During these two years *all* the members of the class are *required* to study Intellectual and Moral Philosophy ; General Mechanics and Physics, including Mathematicae and Physical Astronomy and Physical Geography ; English Literature ; the elements of the History of Civilization, and of Social and Political Science. They are also all instructed in English Composition and in Oratory.

Besides these studies, each member of the class at the beginning of his Junior year must select from the following list *three* subjects of study which he shall pursue during the last two years of his course, the alternatives being the following. He must take either—

GREEK or GERMAN ;

LATIN or FRENCH ;

PURE MATHEMATICS or advanced studies in HISTORY and
ENGLISH LITERATURE.

A student may pursue the full course, or he may take any portion of that course which the Faculty may sanction. But no person will be admitted by the Faculty to a partial course, unless it is clearly shown that he has had sufficient preparation to profit by the instruction of those Professors whom he wishes to attend. At the termination of such a partial course, satisfactorily pursued, a certificate of proficiency will be awarded.

III.

COLLEGE TERMS AND VACATIONS—TUITION FEES.

The college year is divided into three terms: the *first* beginning on the 15th of September, and ending on the 24th of December; the *second* beginning on the 2d of January, and ending on the Wednesday before Easter; and the *third* beginning on the Tuesday after Easter, and ending on the last Thursday of June (Commencement day).

The Annual Tuition Fee is one hundred and fifty dollars, or fifty dollars for each term, payable always in advance, to the Treasurer of the University, at the beginning of each term.

During the first and second terms private examinations in the way of review are held by each Professor; and at the close of the third term a public examination upon the studies of the whole year is held by the Faculties in both Departments. At the end of each term students who attain distinction are classed in order of merit.

Students shown by their term average to be deficient in any of their studies are conditionally attached to their class until they prove on re-examination that said deficiency has been fully made up. In case of persistent neglect, or evident inability to keep up with the class, the student must be dropped from the rolls.

COURSE OF INSTRUCTION FOR THE DEGREE OF BACHELOR OF ARTS.

FRESHMAN CLASS.

- GREEK.—Xenophon (*Hellenics*). Aristophanes (*The Clouds*). Arnold's Greek Prose Composition.
- LATIN.—Selections from Livy and Horace's Satires, with Professor's Syllabus.
- MATHEMATICS.—Algebra (*Alsop*, to Chap. VII.). Geometry (*Legendre*, first eight books).
- ENGLISH.—*Freeman's Outlines of History* and Lectures, with *Labberton's Historical Atlas*. Compositions and Declamations.
- FRENCH.—*Colloz's Pronouncing French Reader*. *Brégy's Compendium of Grammatical Rules* (First Part). Guide to French Conversation (*Smith*).

SOPHOMORE CLASS.

- GREEK.—Thucydides (*Sicilian Expedition*). Aristophanes. Arnold's Greek Prose Composition completed.
- LATIN.—Tacitus (*Agricola, Germania, or Histories*). Cicero (*De Senectute* or *De Officiis*). Horace (*Selected Odes*) with Professor's Syllabus of Horatian Metres.
- MATHEMATICS.—Algebra (*Alsop*), completed. Geometry completed (*Legendre*). Plane and Spherical Trigonometry (*Legendre*), with applications to Surveying, Navigation, etc. Conic Sections.
- ENGLISH.—Elements of Rhetoric. *Bain's Rhetoric*, with Lectures and Practical Exercises. *Earle's Philology of the English Tongue*, with Lectures. Composition and Declamations.
- GERMAN.—*Plate's German Studies*. Practical Exercises in Translation. Körner.
- FRENCH (*Voluntary*).—*Un Philosophe sous les toits*. Sue's Grammar. Guide to French Conversation (*Smith*).
- CHEMISTRY. Introduction to Modern Chemistry. Lectures.

JUNIOR CLASS.

- PHILOSOPHY (*Required*).—Intellectual Philosophy. Lectures introductory to Philosophy. *Hamilton's Philosophy*. Moral Philosophy. *Whewell's Elements* (Lectures).
- GREEK (*Elective with German*). Theocritus. Demosthenes (*Public Orations*). Plato. Sophocles.
- LATIN (*Elective with French*).—Selections from Juvenal. Cicero. (*De Officiis, De Finibus, or De Amicitia*). Horace (*Epistles*).
- PURE MATHEMATICS (*Elective with English*).—Analytical Geometry, including Conic Sections (*Church*). Differential Calculus (*Church*) commenced.
- PHYSICS (*Required*).—Mechanics. Sound. Heat. (*Ganot's Physics*.) Experimental Lectures.

- ENGLISH (*Required*).—Compositions and Declamations. Logic. (*Atwater*.)
- ENGLISH (*Elective* with *Pure Mathematics*).—Roman History (*Student's Gibbon*). Historical Lectures.
- GERMAN (*Elective* with *Greek*).—Plate's German Studies. Whitney's German Grammar. Schiller's *Maria Stuart*. Storms *Immensee*. Lectures on the History of the German Language.
- FRENCH (*Elective* with *Latin*). *Racine*. Brégy's Compendium, Part 2d.

SENIOR CLASS.

- PHILOSOPHY (*Required*).—Intellectual Philosophy—Lectures: *Systems from Bacon to the present*. *Berkeley's Principles, annotated*. Evidences of Natural and Revealed Religion. *Butler's Analogy*.
- GREEK (*Elective* with *German*).—Xenophon (*Memorabilia*). Euripides.
- LATIN (*Elective* with *French*).—Cicero (*Tusculanæ* or *Oratio pro Cluentio*). Horace (*Ars Poetica*) or Lucretius (Selections).
- PURE MATHEMATICS (*Elective* with *English*).—Differential Calculus completed. Integral Calculus (*Church*).
- PHYSICS (*Required*).—Light and Electricity, including Magnetism. (Lectures). Mathematical and Physical Astronomy (*Gummere* and Lectures), Physical Geography (Lectures).
- ENGLISH (*Required*).—*Guizot's* History of Civilization. *Taine's* English Literature. International Law (Lectures). Social Science (*Carey* and Lectures). Compositions and Original Declamations.
- ENGLISH (*Elective* with *Pure Mathematics*).—Lectures on Modern History. Lectures on the Relations of English History to English Literature.
- GERMAN (*Elective* with *Greek*).—Schiller's Poems; Goethe's *Egmont*. Exercises in German Grammar. Synonyms.
- FRENCH (*Elective* with *Latin*).—*Molière*. Lectures on French Literature.

GRATUITOUS INSTRUCTION, ETC.

The Committee on the Department of Arts may admit, for gratuitous instruction in this Department, such pupils, not exceeding fifteen at any one time, as shall, after application to the Provost, have been examined and approved by the Faculty, and reported by the Provost as worthy of admission.

Two Literary Societies, consisting of students and alumni of the Institution, are sanctioned by the Board of Trustees, and meet in the University, being under the general control and supervision of the Faculty.

The degree of Master of Arts may be conferred on the alumni of the University, Bachelors in the Arts of three years' standing, who apply for it. Bachelors of Science (of three years' standing) are entitled to the degree of Master of Science, on presenting to the Faculty a Thesis, which shall give satisfactory evidence that the author has continued to devote himself with success to the study of science.

A public Commencement for conferring degrees is held on the last Thursday of June.

LIBRARIES.

Great additions have been made to the Libraries of the University during the past year. It is proposed to enlarge them still further, as occasion may offer, and to make the fullest use of this means of supplementing the instructions of the Class-room. Besides the old Library of the University, and those Libraries which are designed for the use of students in Chemistry and Engineering, the COLWELL LIBRARY, composed of a very complete collection of books relating to Social and Political Science, has been arranged and is now ready for reference. During the past year the extensive and valuable Classical Library of Professor ALLEN has been presented to the University. A very choice collection of books, intended to illustrate the instruction in History and English Literature, has also been added; and, lastly, a Library selected with great care and

designed to aid in the study of the English language, and of the works of Shakspeare, has been procured. The Libraries of the two Literary Societies of the University are also open to the students.

PRIZES.

I. A stated annual appropriation is made by the Board of Trustees to enable the Faculty to offer *Prizes* for superiority in the performance of voluntary exercises, over and above the ordinary Course. The subjects are proposed by the several Professors early in the year; the award is made by the Faculty, and reported to the Board, before the month of June; and the names of those who have received prizes are published at the annual Commencement.

The prizes offered for the present year, under this regulation, are—

1. In the DEPARTMENT OF INTELLECTUAL AND MORAL PHILOSOPHY, a Prize of the value of \$20 for the best Essay, by a member of the Junior Class. Subject: "*Natural Realism.*"

2. In the DEPARTMENT OF GREEK LANGUAGE AND LITERATURE, a prize of the value of \$30 for the best examination upon the "*Oration of Demosthenes on the Crown,*" to be read with the Professor, by members of the Senior Class.

3. A prize of the value of \$20, for the best examination upon the "*Electra of Sophocles,*" to be read with the Adjunct Professor, by members of the Junior Class.

4. A prize of the value of \$10, for the best examination, by a member of the Freshman Class, upon *Greek Prose Composition with the Accents.*

5. In the DEPARTMENT OF HISTORY AND ENGLISH LITERATURE, a prize of the value of \$30 for the best English Essay, by a member of the Senior Class. Subject: "*The Light of the Dark Ages.*"

6. A prize of the value of \$20 for the best English Essay, by a member of the Junior Class. Subject: "*The General Results to Roman Civilization of the Invasion of the Barbarians.*"

7. A prize of \$15 for the best original Declamation by a member of the Sophomore Class.

8. A prize of \$10 for the best Declamation by a member of the Freshman Class.

II. To encourage the training in Greek and Latin Prose Composition in the Preparatory Schools, a first and a second prize have been established by the Faculty, under authority of the Board of Trustees, of the values of \$15 and \$10 respectively, to be awarded annually to the two Freshmen who upon entering College shall pass the best special examination in the *Elements of Latin Prose Composition*, provided said examinations reach a satisfactory standard of excellence: the examination to take place on or about the first day of October. The examination in 1874 will be upon the whole of Part I. of Arnold's Latin Prose Composition. Certificates of the fact will also be presented to *all* competitors whose examination reaches a satisfactory standard.

Two prizes of like amount for *Greek Prose Composition* will be awarded annually. The examination in the year 1874 will be upon the whole of Leighton's Greek Lessons. The examination in 1875 upon the whole of Jones's Greek Exercises.

III. A prize of \$20 has been established by the Board of Trustees, to be awarded to such member of the Scientific Classes, as shall, "*by his improvement in Drawing, and his general good conduct and application,*" be entitled to such honorary distinction.

IV. The "HENRY REED PRIZE," founded by the Alumni of the University in memory of the late Prof. Henry Reed, is annually awarded for the best *English Essay* by a member of the Senior Class, entitling the successful candidate to one year's interest on a certificate of loan issued by the City of Philadelphia in the sum of \$600, and also to an accompanying Diploma of Merit. The Essays must be handed in to the Provost, for transmission to the Board of Trustees, by the first of April. The subject for the present year is "*The National Poet as the National Historian.*"

V. The SOCIETY OF THE ALUMNI have founded the following prizes:—

1. A prize to be annually awarded to that member of the graduating class who shall present the best *Latin Essay*, entitling the successful

candidate to one year's interest on a certificate of loan, issued by the City of Philadelphia, in the sum of \$900. The Essays must be handed to the Provost, for transmission to a Committee of Examiners appointed by the Society, by the first day of May.

2. A prize to be annually awarded to a member of the Junior Class for the best *Original Declamation*, entitling the successful candidate to one year's interest on certificates of loan, issued by the City of Philadelphia, in the sum of \$300.

DEPARTMENT OF SCIENCE.

I.

FACULTY.

CHARLES J. STILLÉ, LL.D., PROVOST OF THE UNIVERSITY, *Professor of History and English Literature.*

J. PETER LESLEY, A.M., DEAN OF THE FACULTY, *Professor of Geology and Mining.*

E. OTIS KENDALL, LL.D., *Professor of Mathematics.*

F. A. GENTH, A.M., PH.D., *Professor of Analytical and Applied Chemistry and Mineralogy.*

LEONARD GEORGE FRANCK, C.E., *Professor of Civil and Mechanical Engineering.*

PERSIFOR FRAZER, JR., A.M., *Professor of Chemistry.*

GEORGE F. BARKER, M.D., *Professor of Physics.*

REV. ROBERT E. THOMPSON, A.M., *Assistant Professor of Mathematics.*

JOHN G. R. McELROY, A.M., *Adjunct Professor of History.*

OSWALD SEIDENSTICKER, PH.D., *Professor of the German Language and Literature.*

F. AMÉDÉE BRÉGY, A.M., *Professor of the French Language and Literature.*

SAMUEL M. CLEVELAND, A.M., *Professor of Rhetoric and Oratory.*

LEWIS M. HAUPT, *Assistant Professor of Civil Engineering.*

INSTRUCTORS.

THOMAS W. RICHARDS, *Instructor in Drawing.*

GEORGE A. KENIG, PH.D., *Assistant in Analytical and Applied Chemistry and Mineralogy.*

THOMAS M. CHATARD, S.B., *Assistant in Analytical and Applied Chemistry and Mineralogy.*

R. E. THOMPSON, A.M., *Secretary.*

II.

AIMS OF THE DEPARTMENT OF SCIENCE.

THE design of the instruction in this Department is to give a thorough technical and professional training to those who propose to engage in the following, among other pursuits, viz., in CHEMISTRY,

with its manifold applications to the industrial arts; in MINERALOGY, GEOLOGY, and MINING; in METALLURGY and ASSAYING; in ENGINEERING, CIVIL, MECHANICAL, and MINING, and in MECHANICAL DRAWING and ARCHITECTURE.

In order that this professional course shall be complete and systematic, and rest upon a broad basis, so that the student at its close may not be a mere *specialist*, but a man of liberal education as well, it has been determined that the course shall be a comprehensive one, extending through four years. The first two years are devoted, not merely to a thorough training in the preparatory and elementary Mathematics, Physics, Chemistry, and methods of physical research generally, but a considerable portion of the time is given to instruction in certain English studies—History, Logic, English Composition, Rhetoric, and Oratory—as well as to the Modern Languages and to Mechanical and Free Hand Drawing.

At the close of these two years, the student is presumed to be prepared for studies of a strictly professional or technical character, and he then selects one of four parallel courses, in which instruction is given in this Department, and during the last two years his work is mainly confined to the studies of one or other of these courses, in accordance with the plans he may have formed in regard to his future profession.

The professional courses, from which a student may select, are at present—

- I. COURSE IN ANALYTICAL AND APPLIED CHEMISTRY AND MINERALOGY.
- II. COURSE IN GEOLOGY AND MINING.
- III. COURSE IN CIVIL ENGINEERING.
- IV. COURSE IN MECHANICAL ENGINEERING.

The Degree conferred by the University, on the satisfactory completion of any one of these professional courses, is that of BACHELOR OF SCIENCE. Rules for conferring other Degrees usual in Scientific Schools will be established hereafter.

III.

TERMS OF ADMISSION, FEES, ETC.

Candidates for admission to the Freshman Class, in the Department of Science, must be at least sixteen years of age, and must be prepared to pass an examination in Ancient and Modern Geography, in English Grammar, in Arithmetic, including the Decimal System of Weights and Measures, in Algebra through Quadratic Equations, and in the first four books of Geometry (either Davies' *Legendre* or Chauvenet).

All applicants for admission, whether to the FRESHMAN or to the HIGHER CLASSES, will be examined for the current year as follows :—

ON MONDAY, JUNE 22d, from 9 o'clock to 11—A written examination in Arithmetic (*Elementary Rules, Compound Numbers, Proportion, Percentage, Fractions*): and in Algebra (*through Quadratic Equations in Alsop's Algebra*).

From 11 $\frac{1}{4}$ to 12 $\frac{1}{4}$ —A written examination in Geometry (*through the four first books of Davies' Legendre or Chauvenet*).

From 12 $\frac{1}{2}$ to 2—A written examination in *English Grammar* and in *Ancient and Modern Geography*. ¶ For details of this examination see page 12.

Applicants for admission to the SOPHOMORE or JUNIOR CLASSES will, in addition to the above, be examined as follows :—

ON TUESDAY, JUNE 23d, from 9 to 12—A written or oral examination upon the whole of *Alsop's Algebra, Chauvenet's Geometry, including the modern portion, on Vogdes' Mensuration, and Church's Descriptive Geometry to the foot of p. 32*.

From 12 to 2 $\frac{1}{2}$ —Oral examinations upon the following subjects :—

IN HISTORY—Upon *Freeman's Outlines of History*, or *Weber's Outlines of Universal History*.

IN CHEMISTRY—Upon *Introduction to Modern Chemistry* (Hofmann).

IN FRENCH—On *Selections from Collot's Pronouncing French Reader; Smith's Guide to French Conversation* (pp. 7, 8, 182, 183, 184, 185); and *Brégy's Compendium of Grammatical Rules* (First Part).

Applicants for admission to the JUNIOR CLASS, who pass the above examinations satisfactorily, will have special appointments made for their examinations upon the studies of the *Sophomore Year*.

A second examination of candidates for admission will be held on

days to be hereafter publicly announced previous to the commencement of the term in September.

Special students (not candidates for a degree) may be received into any of the professional courses, when, in the opinion of the Professor, the applicant is likely to derive profit from the instruction given. Permission will not be given, however, in any case, except upon proof of sufficient preparation, and will be withdrawn in all cases of irregularity of attendance or conduct. To these students a CERTIFICATE OF PROFICIENCY will be awarded upon the completion of such a course and a satisfactory examination therein.

The college year is divided into three terms: the *first*, beginning on the 15th of September, and ending on the 24th of December; the *second*, beginning on the 2d of January, and ending on the Wednesday before Easter; and the *third*, beginning on the Tuesday after Easter, and ending on the last Thursday of June (Commencement day).

The fees for instruction in this Department are \$50 per term (payable in advance to the Treasurer at the beginning of each term), or \$150 per annum.

A separate charge is made to students of the Senior and Junior years, for chemicals and the use of apparatus.

Any further information concerning the Department of Science may be obtained by addressing Professor J. P. LESLEY, Dean of the Faculty, 1008 Clinton Street.

IV.

COURSE, METHODS, AND MEANS OF STUDY.

The Students in the Scientific Department are divided into four classes, Senior, Junior, Sophomore, and Freshman.

Instruction is given by lectures and recitations, and by daily exercises in the Laboratories and Drawing Rooms, which are open to the students all day, work being required of them five afternoons in the week, as well as in the morning hours named in the Roster.

Instruction is made as practical as possible. Students in CHEMISTRY

are given thorough courses of blow-piping and determination of hand specimens, apart from the lectures on Systematic Mineralogy and Metallurgy; and preparations are making for the erection of model crushing machines and furnaces, of a size sufficient for the reduction of ores on a scale larger than that of ordinary laboratory work.

Students in GEOLOGY are trained in drawing rooms to plotting original field notes, contouring, making relief maps of mineral properties, constructing sections on an equal vertical and horizontal scale, converting thereby their maps into clay models, casting these in plaster, and coloring the solid models to show the structure of the country. Solid models of underground work are made to show the posture of veins and beds, and the connection of these with the surface. To these are added illustrative diagrams and pictures, calculations of quantity, and whatever else is needful for the writing of reports for professional service.

One or more excursions to the mines and furnaces of the State, for the purpose of practical instruction, are provided for in the Spring.

Students in CIVIL AND MECHANICAL ENGINEERING will be required to make drawings and models as an essential part of the course.

The drawing-room contains models of bridges in stone, iron, and wood, selected from America, England, France, and Germany, of roofs, and various other structures, and also a set of topographical drawings.

A workshop for modelling in plaster of Paris is now established, where the students execute, from their own plans, the cutting, dressing, and joining of stones for walls and arches.

Field practice in Surveying and Engineering, and the visiting of machine shops, factories, and public works in process of construction form an essential part of the instruction given. Saturday is usually set apart for that purpose.

The field practice in Civil Engineering is intended to instruct the students in the practical problems of Chain Surveying (Perpendiculars, Broken Lines, Areas, etc.); and the use of instruments in the location of Roads, Railroads, and in Topography.

To the more advanced students the practical determination of the problems of Geodetic Surveying, including Hydrography, and of the construction of private and public works, will be illustrated and taught by field practice.

The PHYSICAL COURSE in the Department of Arts extends over two years; that in the Department of Science, over three. During the first year the instruction is by means of text-book recitations, explanations and illustrations being introduced where necessary. During the second year the instruction is by lectures, with examinations at stated intervals. In the first year the course comprises Mass-Physics, including Acoustics, and the subject of Heat, in Molecular Physics. In the second, Molecular Physics, comprising Light and Electricity, is finished. For the present, courses of lectures on Physical Astronomy and Physical Geography are included in the instruction of the second year in this department. The third year of instruction in physics is given exclusively to the Senior Class of the Department of Science, and consists of practical work in the *Physical Laboratory*, for a given number of hours a day. It is intended to limit the course to Quantitative Methods in Physics; in other words, to put the student in practical possession of the best methods of accurately measuring quantities, whether these be the simpler quantities of mass-measurement, as volumes, densities, or motions, or the more subtle measurements of thermal, electrical, or luminous quantities.

In Pennsylvania, the chief seat of coal mining and iron smelting, and in Philadelphia, the most important focus of American manufactures, such practical instruction in Mining and Metallurgy, Civil Engineering, and Mechanical and Physical Science, not only is indispensable, but takes precedence of merely didactic and theoretical scientific tuition, such as was once accounted a sufficient supplement of a liberal education. The Students of this Department of the University, therefore, are not only taught to comprehend the principles, but to exercise themselves constantly in the technical labor demanded by a professional life before assuming its responsibilities in the world of business. Every year will enlarge the scope and add to the efficiency of the instruction organized on this practical basis.

CABINETS, APPARATUS, Etc.

The *Mineralogical Department* contains a large collection of minerals, embracing over 10,000 specimens, representing the most important forms and varieties of nearly every established species. It contains many unique specimens, and especially many pseudomorphous forms.

Of instruments it contains a fine Zentmayer's microscope, with Polarizer, etc., and Groth's improved instruments, viz., Goniometer for the exact measurement of angles of crystals, his Stauroscope for the optical examination of crystals, and his universal compound instrument for the exact determination of the optical bisectrix and the optical behavior of minerals at an elevated temperature.

It also contains a collection of sliees or microscopical plates of all the important minerals and artificial crystals for the study of their optical properties, and

A collection of microscopic plates of thirty-seven typical rocks, and a machine for the production of microscopical plates, and a complete collection of the renowned "Siegen Models of Crystals," illustrating the formation of the more complicated from the simple forms.

For instruction in *Analytical Chemistry*, students are furnished with a working table, and each with a set of such reagents as are constantly required for their work.

The Laboratory for Volumetric Analyses is furnished with a complete set of graduated vessels for normal or standardized solutions, with burettes, pipettes, etc.; also a collection of hydrometers, alcoholometers, and similar instruments, representing the principal forms used in the arts.

The Laboratory for Gas Analysis contains a complete set of apparatus for such work, absorptiometer, etc.; also a machine for graduating endimeters.

For the determination of the value of saccharine substances, a Soleil-Ventzke's Saccharimeter has been acquired, and for the valua-

tion of illuminating gas, Bunsen's Photometric Apparatus. Collection of chemical products and salts.

The Metallurgical and Assay Laboratories, etc., are furnished with the requisite furnaces, also with numerous diagrams and models of wood, representing on a reduced scale many of the most important forms of furnaces and machinery, and a Spectroscope, especially constructed for observations of the spectra in the production of Bessemer steel.

There is also a collection of furnace products and ores from Freiberg, representing the whole metallurgical process.

A *Collection of American Fossils* (exclusive of the vertebrata), has been presented to the Geological Museum of the University, and will be systematically arranged during the ensuing year. It will exhibit in two parts, first, type specimens of all the known subdivisions of prezoic, palæozoic, mesozoic, and kainozoic rocks, with or without their fossils; and, secondly, types of all known genera and characteristic species of the fossils themselves. It has been constructed on this plan to exhibit the gradual change of the sedimentary formations in passing from one geographical district to another, and the effects of these changes upon the organic life-forms in the same age and in successive ages.

Suites of European fossils and collections of American coals and iron ores make the Museum useful in other ways. It is hoped that all the graduates of the Department will show their interest in the Museum by collecting for it valuable suites of minerals, metals, products of furnaces, and fossils wherever they may spend their professional lives.

Important additions have been made to the already excellently-arranged apartments heretofore assigned to the *Department of Physics*. The lecture-room has been provided with the conveniences which the recent rapid progress of Experimental Physics renders necessary, if a corresponding fullness of demonstration be attained. Besides water, gas, and steam, the lecture-table is supplied with a vacuum and an air-blast, with oxygen and hydrogen, and with electricity, all of which are constantly available. The photometer-room and the battery-room are in course of preparation, and a photo-

graphic-room is contemplated. A large room has been assigned as a workshop, and is to be fitted up with the necessary tools for the working of wood and metals, after the plan now becoming general in all our larger scientific institutions. The value of such a room, in teaching the student the use of tools and in enabling him to construct special apparatus, cannot easily be overestimated.

The apparatus used both for the purposes of lecture-demonstration and of practical laboratory work in the Department of Physics, is intended to be very complete. A large part of it was purchased in Europe the past summer, and is at present upon our shelves. It comprises acoustical apparatus from Kœnig, electrical measurement apparatus from Elliott, other electrical apparatus from Ruhmkorff, Borchardt, Alvergnyat, and Geissler; optical apparatus from Duboscq, Hofmann, Browning, and Ladd; and apparatus in mass-physics from Salleron. Among the larger pieces of apparatus may be mentioned a magneto-electric machine for the electric light, from M. Gramme, and a powerful electro-magnet from Mr. Wallace. Another year, it is expected, still greater additions will be made to the collection of apparatus, especially to that portion designed for the physical laboratories and the laboratories for special investigation.

In the Department of *Mechanical Engineering* the cabinet contains: couplings, trains of spur- and bevel-wheels, the worm and spur-wheel, the screw-propeller, a combination of the toggle-joint and screw, the differential screw, a tilt-, trip-, and forge-hammer, several dynamometers, a governor with throttle-valve, a set of fixed and movable and compound pulleys, an apparatus to determine the coefficient of friction, and models of various forms of steam engines, water-wheels, etc.

V.

COURSE OF STUDY.

The following is an outline of the Course of Study pursued in this Department:—

FRESHMAN YEAR.

- ENGLISH.—*Freeman's* Outlines of History, and Lectures, with *Labberton's* Historical Atlas. Compositions and Declamations.
- FRENCH.—*Colloz's* Pronouncing French Reader. *Brégy's* Compendium of Grammatical Rules (First Part). Guide to French Conversation (*Smith*).
- MATHEMATICS.—Algebra. Mensuration (*Vogdes*). Geometry. Descriptive Geometry (Problems including the Point, Right Line, and Plane).
- DRAWING.—Geometrical and Isometrical Drawing, and Drawing from the Flat. Free Hand Sketching. Use of the Scale and Protractor. Water-colors. Graphical representations from Geometry. Ornamentation.
- PHYSICAL SCIENCE.—Somatology. Elementary Chemistry (Chemical Formulæ and Equations. Quantivalence). Elements of Geology.

SOPHOMORE YEAR.

- ENGLISH.—Elements of Rhetoric (*Bain's Rhetoric*), with Lectures and Practical Exercises. *Earle's* Philology of the English Tongue, with Lectures. Composition and Declamations.
- GERMAN.—*Plate's* German Studies. Practical Exercises in Translation.
- FRENCH.—“*Un Philosophe sous les toits.*” *Sue's* Grammar. Guide to French Conversation. (*Smith*.)
- SPANISH (Voluntary).—*Ollendorf's* Spanish Method. *Tolon's* Spanish Reader.
- MATHEMATICS.—Trigonometry, Plane and Spherical (*Chauvenet*), with Applications to Surveying (Plotting from Field Notes and Computing of Areas). Descriptive Geometry (Practical Problems). Conic Sections. Analytical Geometry (Point, Line, and Intersection of Planes). Differential Calculus.
- DRAWING.—Isometric and Linear Perspective. Principles of Architecture. Ornamental Drawing. Landscape.
- PHYSICAL SCIENCE.—Mechanics, Sound, Heat. Theoretical Mineralogy (Crystallography, and Classification of Minerals). Examination of Natural and Artificial Salts. Theoretical Inorganic Chemistry (Chemistry of the Non-Metals, Metals, and Organic Compounds, with Stoichiometric Calculations). Topographical Geology (Construction of Geological Maps and Sections, Plans of Mines, and Calculations of Place and Quantity).

JUNIOR YEAR.

STUDIES PURSUED BY THE WHOLE CLASS.

- ENGLISH.—Logic (Atwater). Compositions and Declamations.
- GERMAN.—Schiller's *Maria Stuart*. Storm's *Immense*. Whitney's Grammar and Exercises.

PHYSICAL SCIENCE.—Light and Electricity, including Magnetism. Physical Astronomy, Physical Geography.

1. *Studies pursued by the Chemical Section.*

Practical instruction in Chemical Manipulation, the use and construction of apparatus, and the detection of the more frequently occurring elements and the simpler compounds.

Qualitative Analysis by the blowpipe in connection with reactions in the humid way for the rapid determination of Minerals and Ores.—Introduction into Metallurgy. Pyrochemical properties of Minerals and their compounds. Metallurgical processes.

Instruction in the practical production of chemical salts, preparations, and simple substances in their greatest perfection and purity; and also according to the principles which govern their manufacture on a large scale.

Qualitative Analysis of more complex substances, with practice in determining the color and condition of products and in the determination of minerals.

Qualitative Analysis and detection of the more rare elements and organic constituents of bodies. Introduction to Quantitative Analysis. Use of the spectroscope in qualitative determinations.

Assaying of Ores. Metallurgical apparatus and its construction, with practical exercises and demonstrations on models and diagrams. Fuel. Ores.

Practical assaying of ores in the dry way. Descriptive Mineralogy, the species and varieties fully illustrated by characteristic specimens of minerals.

2. *Studies pursued by the Geological Section.*

The Coal and Iron Mines of the United States. Methods of Mining. Statistics. Uses. Markets. History, etc.

Copper, Lead, Silver, Gold, Salt, Petroleum, etc., in the United States, and elsewhere.

Mapping and modelling continued.

3. *Studies pursued by the Civil Engineering Sections.*

MATHEMATICS.—Differential Calculus and Conic Sections completed. Calculus. Descriptive Geometry (application to Ground Plans, Maps, etc.).

APPLIED MECHANICS.—Motion of a Material Point. Statics and Dynamics of Rigid Bodies.

SURVEYING.—Locating of Roads, Drains, etc., on Topographical Charts. Filling in with Plane Table.

ENGINEERING.—Masonry. Framing. Calculation of the Strength of Frame Work.

DRAWING.—Topographical Drawing. Roofs. Bridges.

4. *Studies pursued by the Mechanical Engineering Section.*

MATHEMATICS.—Integral Calculus. Differential Calculus and Conic Sections (completed). Descriptive Geometry (Applications to the Projections of Machines).

MECHANICS.—Laws of Motion. Statics and Dynamics of rigid Bodies. Definition of Elementary Machines. Work done by Machines. Apparatus to Measure the Mechanical Effect. Regulating Apparatus. Fly-wheel. Governors and Brakes. Friction.

Drawing of parts of Machines: Screw-bolts and nuts; riveting; gudgeons, pivots, axles, shafts, couplings, pillow-blocks, shafthangers; band, cord, and train-wheels; gearing; crank and connecting rod; walking beam; connection of pipes, valves, cylinders, pistons, stuffing boxes; hempen ropes, wire ropes, chains, tools, etc.

SENIOR CLASS.

STUDIES PURSUED BY THE WHOLE CLASS.

ENGLISH.—Compositions. Declamations. *Guizot's* History of Civilization.

History of English Literature. Social Science and International Law.

GERMAN.—Goethe's *Egmont*; Whitney's Grammar and Exercises.

PHYSICAL SCIENCE.—Practical Physics, Instruction in the Physical Laboratory.

1. *Studies pursued by the Chemical Section.*

Quantitative Gravimetric Analysis of the simple and complex salts and minerals.

Practice in the analysis of unknown bodies. Volumetric Analysis and preparation of normal solutions. Gas Analysis. Manufacture, graduation, and use of eudiometers. Photometric tests.

Determination of the constituents of cast-iron and steel. Practice in Agricultural Chemistry, and Analysis of Manures.

Determination of small amounts of impurities (adulteration and poison in food and drink). Analysis of water of mineral springs. Organic Analysis. Practice in production of Chemical preparations. Quantitative Blowpipe Analysis.

Special Metallurgy—Gold, Silver, Lead, Copper, Zinc, Cobalt, Nickel, etc. Metallurgy of Iron and Steel treated with special attention. Metallurgical practice. Construction of plans for metallurgical works, with estimate of cost.

Practical determination of minerals by their physical properties.

2. *Studies pursued by the Geological Section.*

Special Geology of the United States taken up in order of the Formations, with characteristic minerals and fossils.

The general Geology and Topography of the World, with regard also to the distribution of the metals and fuels.

History of Geology.

Writing of Professional Reports and their illustration by diagrams, maps, and pictures.

Field practice.

3. *Studies pursued by the Civil Engineering Section.*

ENGINEERING.—Calculation of the Strength of Roofs and Bridges. Foundations. Retaining Walls. Arches. Rectification of Rivers. Roads and Canals. Drainage. Construction of dams, jetties, dikes, and breakwaters. Improvement of harbors. Location of cities (Plans. Width and direction of streets).

MACHINERY.—Hand-machinery. Water-wheels. Steam-engines.

ASTRONOMY.

GEODESY.—Triangulation. Geodetic Surveying (Latitude and Longitude).

DRAWING.—Plans. Elevations. Sections.

4. *Studies pursued by the Mechanical Engineering Section.*

APPLIED MECHANICS.—Statics and Dynamics of Fluid Bodies.

MECHANISM.—Trains of Mechanism in general ; rolling contact, sliding contact, wrapping connectors, link-work.

MACHINERY.—Strength and proportions of machines, water-wheels, water-pressure engines, steam and its properties, steam-engines, air and gas engines, estimates and contracts.

DRAWING.—Construction of machines. Working drawings.

UNDERGRADUATES, 1873-74.

DEPARTMENT OF ARTS.

SENIOR SOPHISTERS.

WILLIAM HENDERSON ALLISON,	Pennsylvania.	Philadelphia.
LOUIS FITZGERALD BENSON,	do.	do.
CHAUNCEY AUGUSTUS BOCKOVEN,	New York.	Seneca Falls.
JOHN EVANS CREW,	Pennsylvania.	Philadelphia.
CHRISTIAN GODFREY FISCHER,	do.	do.
JOSEPH DE FOREST JUNKIN,	do.	do.
MARTIN LUTHER KOHLER,	do.	Trappe, Montgomery Co.
WILLIAM BRASHEAR LANE,	do.	Philadelphia.
LOUIS LINDENSTRUTH, JR.,	do.	do.
ISAAC TYSON MORRIS,	do.	do.
NALBRO' FRAZIER ROBINSON,	do.	do.
JACOB SNARE, JR.,	do.	do.

SCIENTIFIC STUDENTS.

SAMUEL WILSON FISHER,	Pennsylvania.	Philadelphia.
JOHN FRANCIS MAHER,	do.	do.
CHARLES MORTON SMITH,	do.	do.

SENIORS, 15

JUNIOR SOPHISTERS.

ESDAILE PHILIP COHEN,	Pennsylvania.	Philadelphia.
FORREST EUGENE DAGER,	do.	Germantown.
WILLIAM TOWNSEND ELLIOTT,	do.	West Chester.
CHARLES WELLINGTON FREEDLEY,	do.	Philadelphia.
GOTTFRIED MARTIN SEBALD FRITSCHER,	Iowa.	Clayton Co.
BERNARD GILPIN,	Pennsylvania.	Philadelphia.
WILLIAM HENRY HOLLIS,	do.	do.
SAMUEL THOMAS KERR,	do.	do.

WILLIAM JAMES MARTIN,	Pennsylvania.	Philadelphia.
WALTER SHELTON MASSEY,	do.	do.
EFFINGHAM BUCKLEY MORRIS,	do.	do.
STERLING MORRISON,	do.	do.
CHARLES EDWARD PANCOAST,	do.	Germantown.
WILLIAM RUCKMAN PHILLER,	do.	Philadelphia.
WILLIAM WAGENER PORTER,	do.	do.
CARROLL SMYTH,	do.	do.
JOHN WILLIAM TOWNSEND,	do.	do.

JUNIORS, 17.

SOPHOMORES.

HENRY RUSH BIDDLE,	Pennsylvania.	Philadelphia.
CHARLES PENROSE BLIGHT,	do.	do.
ROBERT JAMES BOWEN	do.	do.
WILLIAM CHRISTIAN BULLITT,	do.	do.
GEORGE CHRISTIAN FREDERICK HAAS,	do.	do.
ADDINELL HEWSON, JR.,	do.	do.
LUCIUS SCOTT LANDRETH,	do.	do.
LAWRENCE LEWIS,	do.	do.
JOHN MORTON MCCLELLAN,	do.	do.
JOHN JAY JOYCE MOORE,	do.	do.
BENJAMIN MITCHELL NEWBOLD,	do.	do.
WILLIAM HENRY PATTERSON,	do.	do.
ROBERT PATTERSON ROBINS,	do.	do.

SOPHOMORES, 13.

FRESHMEN.

ROBERT COBURN BRODIE, JR.,	Pennsylvania.	Philadelphia.
JOHN MARIE CHAPRON,	do.	do.
WALTER COX,	do.	do.
EDMUND AUSTIN CRENSHAW, JR.,	do.	Germantown.
CHARLES AITKEN CURRIE,	do.	Philadelphia.
EDGAR DUDLEY FARIES,	do.	Williamsport.
CHARLES SPALDING FARNUM,	do.	Philadelphia.
JOHN RUCKMAN FELL,	do.	do.
HARRY BANKS FRENCH,	do.	do.

HENRY LAUSSAT GEYELIN,	Pennsylvania.	Philadelphia.
HENRY HARVEY,	do.	do.
CHARLES IRVIN JUNKIN,	do.	do.
HOWARD ATWOOD KELLY,	do.	do.
ALEXANDER MARTIN KERR,	do.	do.
ERNEST LAW,	do.	do.
FRANCIS ALBERT LEWIS, JR.,	do.	do.
JOHN MEILY, JR.,	do.	Lebanon.
ROBERT TAYLOR MIDDLETON,	do.	Philadelphia.
WILLIAM WHITNEY MUNROE,	do.	do.
JOHN NEILL, JR.,	do.	do.
THOMAS RUNDLE NEILSON,	do.	do.
CLEMENT BUCKLEY NEWBOLD,	do.	do.
GEORGE STANLEY PHILLER,	do.	do.
WILLIAM BOYD POWER,	do.	do.
JAMES BOYD RISK,	do.	do.
THOMAS ROBINS, 3D,	do.	do.
EDWARD CHARLES SHARKEY,	do.	do.
CHARLES TAYLOR STEWART,	do.	do.
EDMUND RICHARDS TATHAM,	do.	do.
WILLIAM STERRETT TAYLOR,	do.	do.
JOSEPH MILLER THOMAS,	do.	do.
		FRESHMEN. 31.

PARTIAL COURSES.

FREDERICK DILLER BAKER,	Pennsylvania.	Philadelphia.
ALEXANDER BURTON CARVER, JR.,	do.	do.
MARCUS ABRAMSON DAINO,	do.	do.
JOSEPH MICKLE FOX,	do.	Andalusia.
FRANCIS INNES GOWEN,	do.	Philadelphia.
JOHN RANDOLPH HARVEY,	do.	do.
WILLIAM CHURCH HENDERSON,	do.	Harrisburg.
THEODORE HORWITZ,	District of Columbia.	Washington.
WILLIAM LUDWIG KNEEDLER,	Pennsylvania.	Chestnut Hill.
SAMUEL MONEY,	do.	Norristown.
CASPAR MORRIS, JR.,	do.	Philadelphia.
JAMES WILKS O'NEILL,	do.	do.
JAMES RUNDLE SMITH,	do.	do.
		PARTIAL STUDENTS, 13.

DEPARTMENT OF ARTS.

RECAPITULATION.

SENIORS	12
JUNIORS	17
SOPHOMORES	13
FRESHMEN	31
TOTAL	<u>73</u>
SCIENTIFIC STUDENTS IN THE DEPARTMENT OF ARTS	3
PARTIAL COURSES	<u>13</u>
TOTAL MATRICULATES IN THE DEPARTMENT OF ARTS,	89

DEPARTMENT OF SCIENCE

POST-GRADUATE STUDENTS.

JOSEPH CRAWFORD EGBERT, B.S.,	Pennsylvania.	Lower Merion.
HUGH JOHN FAGAN, B.S.,	do.	Philadelphia.
ROBERT PATTERSON FIELD, B.A.,	do.	Germantown.
REUBEN HAINES, B.A.,	do.	do.
JOSEPH HARTSHORNE, B.A.,	do.	Philadelphia.
FREDERICK JAY KNIGHT, C.E.,	New York.	Monroe.
HENRY CARVILL LEWIS, B.A.,	Pennsylvania.	Philadelphia.
LUCIEN EUGENE ROSAMOND LYONS, B.A.,	do.	do.
CHARLES ADDAMS YOUNG, B.S.,	do.	do.

SENIORS.

CHARLES ALBERT ASHBURNER,	Pennsylvania.	Philadelphia.
GEORGE HENRY CHRISTIAN, JR.,	do.	do.
FRANCIS ALOYSIUS CUNNINGHAM,	do.	do.
ABRAHAM ERNEST HELFFENSTEIN,	do.	do.
LAWRENCE TAYLOR PAUL,	do.	do.
CHARLES HENRY TOWNSEND,	do.	do.
ALBERT BORDEN WILLIAMS,	do.	do.

JUNIORS.

JOSEPH ABRAHAM,	Pennsylvania.	Merion, Montgomery Co.
ISAAC WARNER ARTHUR,	do.	Radnor, Delaware Co.
EDWARD BALDWIN GLEASON,	do.	Philadelphia.
JOHN MARSTON,	do.	Overbrook, Montg'y Co
CALHOUN MEGARGEE,	do.	Philadelphia.
LOUIS DE LANGE MOSS,	do.	do.
JOHN CAMPBELL SHERLOCK,	Ohio.	Cincinnati.
ISAAC HARRISON WAINWRIGHT,	Pennsylvania.	Philadelphia.
FRANK HYDE WOODROW,	Ohio.	Cincinnati.

SOPHOMORES.

JOSEPH ALEXANDER,	New Jersey.	Haddonfield.
HENRY WHITE ANDREWS,	Pennsylvania.	Chestnut Hill.
HENRY COENHOVEN BOYER,	do.	Norristown.
BYRON GORDON BROMLEY,	do.	Philadelphia.
WILLIAM GOODWILL BUTTON,	New Jersey.	Camden.
HENRY ROGERS CARTWRIGHT,	Pennsylvania.	Philadelphia.
WALTER ALLEN FELLOWS,	do.	do.
FRANK HAMILTON FIELD,	do.	do.
FREDERICK AUGUSTUS GENTH, JR.,	do.	do.
EDMUND GRAFF HAMERSLEY,	do.	Downingtown.
EUGENE RUSSELL HUDDERS,	do.	Philadelphia.
FRANK WEST IREDELL,	do.	do.
WILLIAM DARRAH KELLEY,	do.	do.
FREDERIC VOGEL LITTLE,	do.	do.
FRANK HAMILTON MAGEE,	do.	do.
CARL MONTAGUE MOODY,	do.	do.
WILLIAM FRANK NEWELL,	District of Columbia.	Washington.
OSCAR GRAVES PARKE,	Pennsylvania.	Downingtown.
HAROLD PEIRCE,	do.	Bristol.
WILLIAM MCCLEERY POTTS,	do.	West Philadelphia.
SAMUEL FREEDLEY PRINCE, JR.,	do.	Philadelphia.
PHINEAS KENNEDY REEVES,	New Jersey.	Gloucester City.
HUGO ALBERT RENNERT,	Pennsylvania.	Philadelphia.
JOHN MORTON SAUNDERS,	do.	do.
WILLIAM LAWRENCE SAUNDERS,	do.	do.
WILLIAM FERRIS SELLERS,	do.	do.
HORACE RUPERT STEPHENS,	do.	Norristown.
DAVID TOWNSEND,	do.	Philadelphia.
GEORGE TURNER, JR.,	do.	do.
JAMES WILLIAM VAN OSTEN, JR.,	do.	do.
BENJAMIN FRANKLIN WARREN,	do.	do.
CHARLES CHANCELLOR WENTWORTH,	do.	Spread Eagle, Chester Co.
OTTO CHARLES WOLF,	do.	Philadelphia.

FRESHMEN.

LLOYD BANKSON,	Pennsylvania.	Philadelphia.
FELIX ARIEL BOERICKE,	do.	do.
JAMES BOND,	do.	do.
CHARLES AUGUSTUS PAUL BORDA,	do.	do.
LAURIN WHITING BURTON	do.	do.
EDWARD WALTER CLARK,	do.	Germantown.
THOMAS CONWAY,	do.	Philadelphia.
MATTHEW CRESSWELL, JR.,	do.	do.
THOMAS MOORE FETTERMAN,	do.	do.
WALTER LOWRIE FINLEY,	do.	do.
ISAAC NEWTON GORDON,	do.	Bellefonte.
JOSIAH GRAVES,	do.	Downingtown.
WILBUR FISK HAMILTON,	do.	Roxborough.
SAMUEL YOHE HEEBNER,	do.	Chestnut Hill.
WALTER HORSTMANN,	do.	Philadelphia.
HORACE CONRAD JONES,	do.	Conshohocken.
RAY WALKER JONES,	do.	Philadelphia.
EDWIN KIRKPATRICK, JR.,	do.	do.
HERMANN ADALBERT LEWIS,	do.	do.
HAROLD ROBERTS LEWIS,	do.	do.
CHARLES BETHEL LUBBE,	do.	Conshohocken.
SAMUEL VAUGHAN MERRICK,	do.	Germantown.
CHARLES JOHN NEWMAN,	do.	Philadelphia.
JOHN KILLGORE PEARCE,	Ohio.	Cincinnati.
WILLIAM PENNOCK,	Pennsylvania.	Coatesville.
HENRY ALBERT POTTER,	do.	Chestnut Hill.
MARK PUENTE,	Cuba.	Havana.
EDWARD ROBERTS, 3D,	Pennsylvania.	Philadelphia.
LEWIS AUDENRIED ROMMEL,	do.	do.
WILLIAM CAMPBELL RUSSELL,	District of Columbia.	Washington.
EARL MILTON SEITZ,	Pennsylvania.	Philadelphia.
HOWARD SELLERS,	do.	do.
HORACE WELLS SELLERS,	do.	do.
ARTHUR WHITCOMB SHEAFER,	do.	Pottsville.
WILLIAM KILGORE SINCLAIR,	do.	Philadelphia.
CHARLES HARKNESS WILLITS,	do.	do.
FRANK EYRE WILLIAMS,	New Jersey.	Haddonfield.
CHARLES SUMNER WILLIAMSON,	Pennsylvania.	Philadelphia.
HUGH LAUSSAT WILLOUGHBY,	New York.	New York.
A. HUNTER WOOD,	Pennsylvania.	Philadelphia. *

SPECIAL AND PARTIAL COURSES.

HENRY MARTYN CHANCE,	Pennsylvania.	Philadelphia.
HOWARD CONSTABLE,	do.	do.
ARTHUR LEWIS GREEN,	District of Columbia.	Washington.
JOSEPH ELEUTERIO HATTON,	Pennsylvania.	Philadelphia.
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SYDNEY CASTLE,	Pennsylvania.	Philadelphia
JOSEPH WARNER EDWARDS,	do.	do.
HARRY WALKER JAYNE,	do.	do.
LINDLEY JOHNSON,	do.	Germantown.
WINSLOW MASON,	New York.	Canastota.
ALBERT ALEXANDER NORRIS,	Pennsylvania.	Philadelphia.
FREDERICK ERCKENS OKIE,	do.	Linwood.
HENRY PEMBERTON, JR.,	do.	Philadelphia.
RICHARD PETERS,	do.	do.
HARRY YELVERTON PEYTON,	New Jersey.	Haddonfield.
JESSE BLACKFAN WATSON,	Pennsylvania.	Philadelphia.
GEORGE SMEDLEY WEBSTER,	do.	do.
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JOHN HOWARD CAMPBELL,	Pennsylvania.	Philadelphia.
GEORGE CURRY CARSON,	do.	do.
WILLIAM ALEXANDER DICK,	do.	do.
HENRY BASIL HALL,	do.	do.
EDWARD SMITH HANDY, JR.,	do.	do.
HARRY HUNTER SMITH HANDY,	do.	do.
EDWARD HAZELHURST,	do.	do.
JOSEPH NATHANIEL HOLMAN,	do.	do.
ALFRED PEARCE,	do.	do.
PEDRO GROTJAN SALOM,	do.	do.
HARRY CAVALIER SMITH,	do.	Andalusia.
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JOHN FREDERICK BETZ, JR.,	do.	Philadelphia.

DEPARTMENT OF SCIENCE.

RECAPITULATION.

POST-GRADUATE STUDENTS	9
SENIORS	7
JUNIORS	9
SOPHOMORES	33
FRESHMEN	40
SPECIAL AND PARTIAL COURSES	28
TOTAL	126

UNIVERSITY OF PENNSYLVANIA,
MEDICAL DEPARTMENT.

Thirty-Sixth and Locust Street.

MEDICAL FACULTY.

GEORGE B. WOOD, M.D., LL.D.,
Emeritus Professor of Theory and Practice of Medicine.

HENRY H. SMITH, M.D.,
Emeritus Professor of Surgery.

JOSEPH CARSON, M.D.,
Professor of Materia Medica and Pharmacy.

ROBERT E. ROGERS, M.D.,
Professor of Chemistry.

JOSEPH LEIDY, M.D., LL.D.,
Professor of Anatomy.

FRANCIS G. SMITH, M.D.,
Professor of Institutes of Medicine.

RICHARD A. F. PENROSE, M.D.,
Professor of Obstetrics and the Diseases of Women and Children.

ALFRED STILLÉ, M.D.,
Professor of Theory and Practice of Medicine, and of Clinical Medicine.

D. HAYES AGNEW, M.D.,
Professor of Surgery.

H. LENOX HODGE, M.D.,
Demonstrator of Anatomy.

CHARLES T. HUNTER, M.D.,
Demonstrator of Surgery.

R. E. ROGERS, M.D.,

W. H. SALVADOR, *Janitor*,
University Building.

Dean of the Medical Faculty,
University Building.

MEDICAL DEPARTMENT.

I.

REGULATIONS.

The Medical Department is under the immediate government of the Medical Professors, who constitute the Faculty of Medicine, subject to the Rules and Statutes of the Board of Trustees. The Faculty consists of—

A Professor of the THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE,

A Professor of ANATOMY,

A Professor of MATERIA MEDICA AND PHARMACY,

A Professor of CHEMISTRY,

A Professor of SURGERY,

A Professor of OBSTETRICS AND THE DISEASES OF WOMEN AND CHILDREN, and

A Professor of the INSTITUTES OF MEDICINE.

The Medical Faculty hold meetings for the purpose of arranging and conducting the business of the department, and for the preservation of order and decorum among the medical students.

One of the members acts as Dean, whose duty it is to keep the Minutes of the Faculty, to arrange the examination of the candidates for graduation, to conduct the business of the Faculty at their meetings, and to attend to correspondence.

The Medical Lectures begin early in October, and end on the last day of February ensuing.

The Commencement for conferring the Degree of Doctor of Medicine is held by a special mandamus of the Board of Trustees during the month of March.

The following are the Rules in force in relation to the Degree of Doctor of Medicine:—

I. The candidate must have attained the age of twenty-one years, have applied himself to the study of Medicine for three years, and been, during that time, the private pupil for two years, at least, of a respectable practitioner of Medicine.

II. The candidate must also have attended two complete courses of the following Lectures in this Institution:—

Theory and Practice of Medicine,

Anatomy,

Materia Medica and Pharmacy,

Chemistry,

Surgery,

Obstetrics and the Diseases of Women and Children,

Institutes of Medicine.

III. Medical students who have attended one complete course in a respectable Medical School, where the attendance on two complete courses is necessary to a degree, and where the same branches are taught as in this, and which is placed upon the *ad eundem* of this school, are permitted to become candidates by an attendance here for one full course; the rules of graduation being in other respects observed. They are also exempted from the payment of fees upon attending a second term.*

IV. When a candidate applies to the Dean for examination he must exhibit his tickets to prove that the above rules have been complied with.

* To induce as many students as possible to prolong and systematize their studies, the Faculty have adopted the following additional Rule:—

STUDENTS WHO HAVE ATTENDED TWO FULL COURSES OF LECTURES ON ANATOMY, CHEMISTRY, MATERIA MEDICA, AND THE INSTITUTES OF MEDICINE, MAY BE EXAMINED UPON THESE SUBJECTS AT THE END OF THEIR SECOND COURSE.

During their third course such students may devote themselves exclusively to the Lectures upon the THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, SURGERY, and OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN. In their final Examination for the Degree of M. D., they will be examined upon the last named subjects only; but their standing will be determined by the combined results of both examinations.

V. The candidate, at the time of his application, must deliver to the Dean of the Medical Faculty a Thesis, composed by himself, on some medical subject. This Thesis is referred to one of the Professors, who shall examine the candidate upon it, and make his report thereon to the Medical Faculty.

VI. When a candidate is rejected, his essay will be retained by the Medical Faculty.

VII. The essay must be in the candidate's own handwriting, and must be written uniformly on letter-paper of the same size, the alternate pages being left blank.*

VIII. Bad spelling in a Thesis, or evidences of a want of literary culture, will preclude a candidate from examination for a degree.

IX. A Thesis may be published by the candidate if he desire it, the permission of the Professor by whom he was examined thereon being first obtained; but no alteration shall be made in such thesis without the consent of the said Professor.

X. The voting on the case of each candidate is by ballot. Candidates who have not been successful upon a first examination will be permitted to have a second, when all the classes have been disposed of by the Faculty. The second examination will be conducted in full meeting of the Professors.

XI. The candidate shall pay the graduation fee on the presentation of his Thesis, or before receiving notice of having successfully passed his examinations. Upon receiving such notice, he will enter his name on the register for the purpose of being reported to the Board of Trustees and included in the mandamus for a degree.

XII. Candidates who have passed their examination, and in other respects complied with the regulations, are to be reported by the Dean to the Provost, who will communicate such report to the Board of Trustees, in order that, if approved of by them, their mandamus be issued for conferring the Degree.

* The essays should be written upon Thesis paper, for the purpose of convenient binding together into volumes. It is recommended that the candidate prepare his thesis before the commencement of his last course of lectures.

XIII. The Degree will not be conferred upon a candidate who absents himself from the Public Commencement, except by special permission of the Medical Faculty.

XIV. Graduates of Medical Schools, on the *ad eundem* list, by attending one complete course in this Institution, and complying with the above regulations, are put upon the same footing with students who have attended two complete courses here; that is, they may present themselves as candidates for graduation: but if they attend a second course, their tickets will be free. Such graduates, of five years' standing, are permitted to attend the course of Lectures, upon a general ticket of admission, free of expense, except the cost of the matriculating ticket. But this general ticket does not qualify for graduation.

EXPENSES.

Fees for the Course of Lectures	\$140
Matriculating Fee (paid once only)	5
Graduating Fee	30

* * * No scholarships are sold by the UNIVERSITY OF PENNSYLVANIA.

The Lectures of the Session of 1874-75 will commence on the first Monday (5th) of October, and close on the last day of February ensuing.

II.

TEXT-BOOKS AND WORKS OF REFERENCE.

- On Practice of Medicine*: Wood's Practice of Medicine; Stillé's Therapeutics; Walshe on the Heart and Lungs; Rindfleisch, or Green, on Morbid Anatomy.
- On Anatomy*: Leidy's Elementary Treatise on Human Anatomy; Sharpey and Quain's Anatomy; Wilson's Anatomy; Gray's Anatomy; Kölliker's Microscopical Anatomy; Stricker's Manual of Histology.
- On Materia Medica*: Carson's Synopsis; Wood's Therapeutics; Wood and Bache's Dispensatory; Abridgment of Pereira's Materia Medica.
- On Chemistry*: Fowne's Elementary Chemistry; Wilson's Inorganic Chemistry; Brande and Taylor's Chemistry; Lehmann's Physiological Chemistry, by Rogers; Taylor's Toxicology.
- On Surgery*: Smith's Principles and Practice of Surgery; Erichsen's Surgery; Paget's Surgical Pathology; Macleod's Surgical Diagnosis.
- On Institutes of Medicine*: Marshall's Physiology; Carpenter's Physiology; Kirke's Manual.
- On Obstetrics*: Hodge's Obstetrics; Hodge on Diseases Peculiar to Women; West on Diseases of Women; West on Diseases of Children; Meigs and Pepper on Diseases of Children.

III.

THE NEW MEDICAL HALL.

Since the issue of the last annual Catalogue a new building for the Medical Department has been erected in West Philadelphia. Corresponding in architecture with the adjacent Department of Arts and of Science, it presents an elegant and imposing appearance; and in its interior arrangements nothing has been omitted which could render it thoroughly adapted to its purpose, and make it in all respects the most complete building devoted to medical science in the United States.

IV.

MUSEUM AND CABINETS.

The WISTAR AND HORNER MUSEUM, which was founded nearly ONE HUNDRED YEARS ago, and has been annually augmented, is unequalled in the United States for the number and variety of its specimens of the normal and the morbid anatomy of every part of the human body. It also contains a large number of preparations in comparative anatomy, and an extensive collection of artistic models, which are used in illustrating the several courses of lectures delivered in the Medical Department. The ticket of matriculation in this Department entitles the holder to admission to the Museum, which is open on Wednesday and Saturday of each week, from 9 to 12 A. M., throughout the session.

The CABINET of the Professor of Theory and Practice of Medicine, collected by Dr. George B. Wood while he held that chair, and generously placed by him at the service of his successors, contains an extensive series of wet preparations, drawings, and models in wax and other materials, which together form a collection unrivalled in extent and value, for illustrating diseases of the internal organs and of the skin.

Through the liberality of Dr. Henry H. Smith, Emeritus Professor of Surgery, the University has received an extensive and valuable gift of models, specimens, and drawings, for the use of the Professor of Surgery.

V.

DEMONSTRATIVE AND CLINICAL INSTRUCTION.

Although the annual lecture term of the Medical Department of the University embraces nearly five months, the time which may be employed by the student who desires to avail himself of all the advantages afforded by the school is really twice as great, or more than ten months in each year.

During the Spring and Summer students of the Medical Department are entitled to attend the Lectures of the Auxiliary Faculty on sub-

jects which form a scientific basis for medicine, and illustrate several of its branches. Those who have attended two full courses and passed a satisfactory examination upon them, receive the degree of Ph.D. (Doctor of Philosophy). The lectures of the Auxiliary Faculty are delivered in the afternoon, while the forenoon is occupied in part by the Medical and Surgical Clinics, and by special clinical lectures upon Physical Diagnosis, Diseases of the Eye, of the Urinary Organs, of Women and Children, and of the Skin, at the UNIVERSITY HOSPITAL. Lectures on Regional Anatomy, and on Microscopy and Urinary Chemistry, complete the programme. For about a month before the opening of the Winter Session, Clinical and Demonstrative lectures of the same general character are delivered.

The different courses of lectures have been so arranged as to enable students to pursue a systematic plan of study, in which the younger may give themselves up wholly to didactic instruction, while the more advanced have the opportunity of seeing the scientific principles and the art of medicine practically illustrated and applied.

VI.

THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Before the opening of the Winter course of lectures for 1874-75, the University Hospital will be in full operation. An elegant and commodious edifice, constructed according to the best established principles of hospital architecture, provided with all the appliances pertaining to such institutions of the first class, and adjacent to the new Medical Hall, this Hospital will form an integral portion of the Medical Department. Attendance on the Clinical Lectures delivered in its amphitheatre and its wards will form a part of the daily privileges of the students, and ample opportunities will be afforded to the more advanced among them to gain a personal and practical acquaintance with Clinical Medicine, Surgery, Obstetrics, and Specialties. These subjects will be taught by the several Clinical Professors in the University, and by the Professors and Lecturers at the Hospital.

VII.

OTHER HOSPITALS AND HOSPITAL CLINICS.

In addition to the official clinical lectures delivered at the University Hospital and the other diversified means of acquiring practical knowledge and skill which that Institution will afford, medical students will have the opportunity of attending clinical lectures in other Hospitals, as well as private classes formed for the special study of disease.

At the PHILADELPHIA HOSPITAL, which is contiguous to the grounds of the University, contains 900 beds, and is the only large hospital in the United States where all the medical attendants are continuously on duty, Clinical lectures are delivered twice a week on Medicine, Surgery, and the Diseases of Women and Children. Lectures on Clinical Medicine and Surgery are also delivered twice a week during the whole year by the Medical Staff of the PENNSYLVANIA HOSPITAL. At both of these institutions students are admitted without charge. During the spring and summer *private* classes are also formed for Clinical Instruction, for which a moderate fee is required. In these classes students are fully instructed in the art of recording cases, and in the various methods of physical examination employed in Clinical Medicine.

The PRESBYTERIAN HOSPITAL, situated in West Philadelphia at a convenient distance from the University, may be added to the list of institutions which will be especially accessible to the students of the University.

Among the other Hospitals where Clinical Instruction is given, and which are open to students, may be mentioned: The EPISCOPAL, WILLS (Eye Hospital), CHILDREN'S, LYING-IN, ST. JOSEPH'S, ST. FRANCIS, GERMAN, and JEWISH HOSPITALS.

The following Dispensaries are also available for students, many of whom are systematically instructed in practice by the visiting physicians: The PHILADELPHIA, The SOUTHERN, The NORTHERN, and The MOYAMENSING DISPENSARIES.

Appointments of RESIDENT PHYSICIANS are made annually in the

different Hospitals of the city, and are open to competition by the graduates of the school, of whom a large number have filled these valuable situations.

From the preceding summary it is evident that a prolonged residence in the city must be of the utmost value to the student, by enabling him to pursue a systematic course of study and to become practically familiar with the scientific methods of investigating disease, and with the principles and results of its treatment.

VIII.

PRACTICAL ANATOMY.

The DISSECTING ROOMS of the University are open throughout the year (except July and August), under the superintendence of the Professor of Anatomy and the Demonstrator.

In building the new Medical Hall of the University, care has been taken to provide Dissecting Rooms that shall contain everything that experience has suggested as being necessary or desirable. These Rooms are unusually large and high. Their *ventilation* will be of the most perfect kind, and adapted both to winter and summer. The *light* will be strong and equably diffused over the whole space by means of extensive skylights and side-windows. There will be gas burners over every table for work by night. Every table will have a *stone* top, which cannot absorb the discharges and can be kept perfectly clean. There will be numerous washstands, and many private closets. *Cleanliness* will be rigidly enforced. The preservation of the *cadaver* has been so successfully accomplished as almost to do away with the dangers of dissecting wounds. Dissection is legalized in Pennsylvania, and therefore the cost of *material* is very small.

IX.

PRACTICAL SURGERY.

The OPERATING ROOM is open during the Session, under the supervision of the Professor of Surgery and his Assistants. Every student is here thoroughly instructed and practically trained in the applica-

tion of bandages and surgical apparatus, and in the performance of operations upon the cadaver. Instruments, splints, and bandages are supplied free of cost.

X.

PRACTICAL CHEMISTRY.

The WORKING LABORATORY for PRACTICAL CHEMISTRY, under the supervision of the Professor of Chemistry and his Assistant, will be open during the Winter Session, and a portion of each spring and autumn.

The instruction here given will be in harmony with the Chemical Lectures of the WINTER SESSION, and will be conducted in such a manner as to secure to the student a PRACTICAL familiarity with the apparatus, materials, processes, and reactions which are the subjects of his professional study, and which are to be availed of in his subsequent practice.

The courses will be arranged under three heads, according to the preparation of the pupil and his own especial wants and choice.

I. MANIPULATION, in which each student will himself prepare the apparatus, perform the various experiments, and trace the reactions, as shown and explained in the regular Winter Lectures of the Professor of Chemistry.

II. QUALITATIVE and QUANTITATIVE ANALYSIS, so far as relates to the wants of the Medical Practitioner. This will include an extensive range of *testing* for the discrimination between the various hurtful substances that may call for antidotes and those which are harmless; and will embrace *Toxicology*, or the *practical separation* and detection of poisons in ORGANIC MIXTURES and TISSUES.

The student will also in this course be conducted *practically* through the manufacture of all the prominent ACIDS and SALTS, and the extraction or preparation of the important ALKALOIDS, ETHERS, and other ORGANIC PRODUCTS.

III. The EXAMINATION OF NORMAL and ABNORMAL PRODUCTS of the human body as aiding in the diagnosis of disease, such as urine, urinary deposits, bile, blood, etc.

EXAMINATIONS.—In connection with these courses of instruction, the student will be systematically examined upon the subjects of his study.

XI.

THE PHYSIOLOGICAL LABORATORY

Will be under the charge of the Professor of the Institutes of Medicine, aided by competent Assistants. Its main object will be to afford the Student an opportunity to study Physiology by experiment and personal observation.

The functions of the various organs and the sources, constitution, and destination of the secretions and excretions will be studied in the living and dead subject by the student, either singly or in classes.

A full supply of all the necessary materials will be afforded for the practical study of this department.

XII.

THE ANATOMICAL LABORATORY

Will be under the supervision of the Professor of Anatomy, and the direct guidance of his Assistant, Dr. Henry C. Chapman. The special object of the Laboratory is to afford a limited number of students the opportunity of studying practical Comparative Anatomy in its relation with Human Anatomy and Physiology. It is proposed that the student shall make for himself dissections of at least one representative of each class of animals from the lowest to the highest. The microscope will be in constant aid of the study.

XIII.

PRIZES.

Two PRIZES of One Hundred Dollars each will be awarded to the members of the Graduating Class of 1874-75 for the two best Essays upon Medical subjects, provided such Essays are of sufficient merit to be worthy of publication.

One of these prizes has been instituted by the SOCIETY OF THE ALUMNI of the Medical Department of the University.

The other has been authorized by a liberal friend of the University.

ANATOMICAL PRIZES.—A “*Gold Medal*” will be awarded by the Demonstrator of Anatomy to that student who shall exhibit the greatest diligence, care, and skill in the practical study of anatomy.

A Prize of THIRTY DOLLARS will also be awarded by the Demonstrator to the student who shall present the best record of the anomalies found in the anatomical rooms during the year.

The names of those to whom the prizes are awarded will be announced at the Annual commencement of the Medical Department.

. Alumni of the Medical Department of the University, and others who desire to receive the Catalogue and Announcement, are requested to send their addresses to the Dean, P. O. Box 2838, Philadelphia.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

CLINICAL LECTURES.

HOSPITAL STAFF.

ALFRED STILLÉ, M.D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine,	} <i>Ex-officio</i> ;
D. HAYES AGNEW, M.D., Professor of Surgery,	
R. A. F. PENROSE, M.D., Professor of Obstetrics and of the Diseases of Women and Children.	
WILLIAM PEPPER, M.D., Clinical Professor of Medicine ;	
D. HAYES AGNEW, M.D., Clinical Professor of Surgery ;	
JOHN NEILL, M.D., Associate Clinical Professor of Surgery ;	
WILLIAM GOODELL, M.D., Clinical Professor of Diseases of Women and Children ;	
WILLIAM F. NORRIS, M.D., Clinical Professor of Diseases of the Eye ;	
GEORGE STRAWBRIDGE, M.D., Clinical Professor of Diseases of the Ear ;	
HORATIO C. WOOD, M.D., Clinical Lecturer on Nervous Diseases ;	
LOUIS A. DUHRING, M.D., Clinical Lecturer on Skin Diseases ;	
JAMES TYSON, M.D., Clinical Lecturer on Pathological Anatomy and Histology.	

MEDICAL DISPENSARY SERVICE.

ROLAND G. CURTIN, M.D., Chief of the Medical Dispensary.
 MORRIS LONGSTRETH, M.D., Chief of the Dispensary for Nervous Diseases.
 ROBERT M. BERTOLET, M.D., Chief of the Dispensary for Diseases of the Throat.

SURGICAL DISPENSARY SERVICE.

CHARLES T. HUNTER, M.D., Chief of the Surgical Dispensary.

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The branches of Natural History, forming the subjects of the two Professorships first named, together with the last, will be taught mainly in reference to their medical relations.

All students who have matriculated in the Medical Department, and have taken the tickets of two of the Medical Faculty, have the right of admission to the lectures. Attendance upon these lectures is not compulsory upon the students in the Medical Department.

The several courses will each consist of at least thirty-four lectures, to be delivered, at hours fixed by the Faculty, three times a week during the months of April, May, and June, commencing on third Monday in March, and ending on Saturday, June 20th.

The degree of Doctor of Philosophy will be conferred upon those medical graduates who shall have attended two courses of lectures, and have passed a satisfactory examination thereon by the Faculty. To such, a Diploma will be granted by the University.

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REGIONAL ANATOMY	H. LENOX HODGE, M.D.
CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS	{ WILLIAM PEPPER, M.D.
MICROSCOPY	
DISEASES OF WOMEN AND CHILDREN	WILLIAM GOODELL, M.D.
DISEASES OF THE EYE AND EAR	{ WILLIAM F. NORRIS, M.D. GEO. STRAWBRIDGE, M.D.
DISEASES OF THE SKIN	
MORBID ANATOMY	JOSEPH G. RICHARDSON, M.D.

Lectures on the above subjects will be delivered by the members of the Summer Association during the months of April, May, June, and September.

All of these Lectures are free to matriculants of the University, upon registering their names with the Secretary of the Association, who will furnish them with tickets.

The next Course will commence on Monday, March 30th, 1874.

Besides the general course on Microscopy, Dr. Tyson will give a special course in which students, upon the payment of a fee of five dollars, will have the opportunity of learning the Practical Manipulation of the Microscope, under the immediate supervision of the lecturer.

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MEDICAL CLASS—SESSION 1873-74.

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SMITH, CLAYTON K.	Pennsylvania.	Jas. Tyson & Associates.
SMITH, HARRY A.	Pennsylvania.	J. J. Sowerby & H. Lenox
SMITH, ROBERT MEADE	Pennsylvania.	Francis G. Smith. [Hodge.
SMYTHE, D. PORT	Texas.	
SNYDER, GEORGE B.	Pennsylvania.	D. S. Hays.
SOWERBY, JOHN J. (M.D.)	New Jersey.	

NAME.	STATE.	PRECEPTOR.
SPENCER, ROBERT E.	Pennsylvania.	Richard Moffett.
SPRINGER, WILLARD	Delaware.	Swithin Chandler.
STANLEY, CHARLES E.	New Jersey.	
STAHLY, GEORGE DIEHL	Pennsylvania.	Traill Green.
STEBALTS, FRANK WILLIAM	Austria.	University of Vienna.
STEEL, FRANCIS C.	Pennsylvania.	Geo. N. Reutter.
STEELMAN, JESSE A.	New Jersey.	E. H. Madden.
STELWAGON, HARRY W.	Pennsylvania.	Thos. G. Morton.
STEWART, THOMAS DALE	Delaware.	David Stewart.
*STEWART, JAMES B.	Delaware.	David Stewart.
STILES, EDWARD, JR (M.D.)	Pennsylvania.	
STILLWELL, WALTER C. (M.D.)	Pennsylvania.	
STOKES, JAMES (M.D.)	Pennsylvania.	
STOUT, ALEXANDER M.	Kentucky.	Thomas Hay.
STRATTON, ALBERT G.	Pennsylvania.	
STROUP, GEORGE H.	Pennsylvania.	Edw. Stiles, Jr.
STROUP, WILSON W.	Pennsylvania.	N. W. Stroup.
STRUBLE, HUGH MCD.	New Jersey.	Jos. F. McCloughan.
STUMP, GEORGE M. (M.D.)	Maryland.	
SUMMERILL, JOHN M.	New Jersey.	M. Johnson.
TAVERNER, ROBERT W.	Virginia.	
TAYLOR, JOHN L. H.	Tennessee.	Wm. V. Taylor.
TAYLOR, WILLIAM L.	Pennsylvania.	Thos. J. Yarrow.
THOMAS, OTHO W.	Pennsylvania.	E. Melhorn.
THOMPSON, JOSEPH	Pennsylvania.	L. H. & T. D. Thompson.
THOMPSON, THOMAS D. (M.D.)	Pennsylvania.	
THROGMORTON, JAMES P.	Illinois.	J. H. Travis.
TIBBINS, JOSEPH S.	Pennsylvania.	E. S. Dorworth.
TOBOLDT, ALBERT L. A. (M.D.)	Pennsylvania.	
TOWNSEND, EUGENE	Pennsylvania.	Wm. W. Keen.
TOWNSEND, HENRY	Pennsylvania.	Geo. M. Ward.
TURNER, ALEXANDER EDWIN	North Carolina.	Benj. F. Mebane.
TURNER, THOMAS B.	New Jersey.	Mayhew Johnson.
UNDERWOOD, TIMOTHY E. (M.D.)	North Carolina.	
URQUHART, GEORGE W.	Pennsylvania.	H. Earnest Goodman.
VAN HOUTEN, ISAAC N. (M.D.)	New Jersey.	
VERNON, GEORGE R.	Pennsylvania.	J. McR. Kemp.
VIANNA, NICOLÁU	Brazil, S. A.	Eug. P. Bernardy.
VINTON, C. HARROD (M.D.)	Pennsylvania.	

NAME.	STATE.	PRECEPTOR.
VOGLER, GEORGE W.	Pennsylvania.	J. M. Boisnot.
VOIGT, CHARLES H.	Pennsylvania.	James McCann.
VOLLMER, ULRICH WILLIAM	Pennsylvania.	Albert Frické.
WADE, FRANK H.	Pennsylvania.	King & Le Moyne.
WALKER, JOHN T. (M.D.)	Pennsylvania.	
WALKER, SAMUEL McFERREN	Pennsylvania.	J. T. Christy.
WALSH, JOHN FRANCIS	New Jersey.	Wm. W. Keen.
WANNER, CYRUS	Pennsylvania.	J. S. Trexler.
WEAVER, GEORGE P.	Pennsylvania.	Wm. D. Reinhardt.
WEEKS, ALBION D.	Maine.	Stephen H. Weeks.
WELDIN, CHARLES E. (M.D.)	Delaware.	
WEST, MAXIMILIAN	New Jersey.	J. M. Ridge.
WESTHAEFFER, H. EMLER	Pennsylvania.	J. L. Atlee, Jr.
WHALAND, CHARLES W.	Maryland.	T. H. Whaland.
WHARTON, HARRY R.	Pennsylvania.	John Neill.
WHELEN, ALFRED	Pennsylvania.	J. H. Brinton.
WHITAKER, FREDERICK A.	North Carolina.	A. F. Hammond.
WILLIAMS, ARTHUR	Maryland.	Wm. P. Bird.
WILLIAMS, FRANK H.	Pennsylvania.	Jno. M. Phipps & Jos. A. Paxson.
WILLIAMS, J. METTAUER	Virginia.	Benjamin Williams.
WILLIAMS, WILLIAM J.	Tennessee.	A. D. & J. E. Cage.
WILSON, JEREMY (M.D.)	Pennsylvania.	
WILSON, J. GREENWOOD (M D.)	New Jersey.	
WINSLOW, RANDOLPH	Maryland.	Jos. G. Richardson.
WINSLOW, WILLIAM H. (M.D.)	Pennsylvania.	Geo. C. Harlan.
WISHART, C. AMMON	Pennsylvania.	J. Wilson Wishart.
WITHERS, HOWARD H.	Pennsylvania.	M. M. Withers.
WOOD, M. ALLEN	Pennsylvania.	A. Pursell.
WOODRUFF, ALPHEUS B.	New Jersey.	J. Barron Potter.
WOODS, MATTHEW (M.D.)	Pennsylvania.	
WOODWARD, CHARLES E.	Pennsylvania.	Nathan Y. Leet.
YOUNG, GEORGE R.	Pennsylvania.	E. B. Shapleigh.
ZEIGLER, GEORGE WINFIELD	Pennsylvania.	A. J. Herman.
ZIEGLER, WALTER M. L.	Pennsylvania.	J. L. Ziegler.
ZOLLIFFER, AUGUSTUS R.	North Carolina.	C. J. Gee & Jas. W. Alston.

Of the foregoing there were from—

Alabama	2	Nebraska	1
Austria	1	New Brunswick	1
Barbadoes, W. I.	1	New Jersey	26
Brazil, S. A.	6	New York	5
California	1	North Carolina	11
Connecticut	2	Nova Scotia	2
Cuba, W. I.	6	Ohio	2
Delaware	16	Oregon	1
Ecuador, S. A.	1	Pennsylvania	247
France	1	Prince Edward Island	1
Illinois	2	Rhode Island	2
Indiana	1	South Carolina	1
Iowa	2	Tennessee	9
Kentucky	2	Texas	3
Maine	1	Turkey, Asia	1
Massachusetts	2	Uruguay, S. A.	1
Maryland	7	United States Army	1
Mexico	1	United States Navy	1
Michigan	1	Vermont	1
Minnesota	1	Virginia	7
Mississippi	1		—
Missouri	3	Total	385

MATRICULATES OF THE AUXILIARY COURSE OF MEDICINE, 1873.

NAME.	RESIDENCE.	STATE.
ASH, J. FRANK	Philadelphia,	Pennsylvania.
ASHBRIDGE, RICHARD, JR.	West Whiteland,	Pennsylvania.
BALDWIN, L. B.	Oxford,	Pennsylvania.
BASS, H. T.	Scotland Neck,	North Carolina.
BECK, RICHARD H.	Heektown,	Pennsylvania.
BISBE, JOSEPH	Santiago,	Cuba.
BROCK, CHAS. H.	Philadelphia,	Pennsylvania.
BRUEN, EDWARD T. (M.D.)	Philadelphia,	Pennsylvania.
COBURN, GEO. H.	Sheffield,	New Brunswick.
COLE, GEO. A. (M.D.)	Olyphant,	Pennsylvania.
DAVIDSON, DAVID (M.D.)	Philadelphia,	Pennsylvania.
DEAVER, R. WILMOT	Buck,	Pennsylvania.
DETWILLER, JOHN W. (M.D.)	Bethlehem,	Pennsylvania.
DILLMAN, J. WALTER (M.D.)	St. Louis,	Missouri.
DOWNS, JESSE L.	Hurffville,	New Jersey.
DUNCAN, JOHN N.	Mercer,	Pennsylvania.
EDWARDS, J. F.	Philadelphia,	Pennsylvania.
ELLIS, GUILHERME	S. Paulo,	Brazil.
ERSKINE, STIRLING (M.D.)	Philadelphia,	Pennsylvania.
ESTRAZULAS, H. M. (M.D.)	Montendes,	Uruguay.
EYSTER, GEORGE L.	Philadelphia,	Pennsylvania.
FARROW, EDWIN D.	Hamilton,	Missouri.
FELTY, JOHN C. (M.D.)	Gettysburg,	Pennsylvania.
FINCK, A. R. (M.D., PH.D.)	Philadelphia,	Pennsylvania.
FINNEY, WM. F.	Hatboro'	Pennsylvania.
FOGEL, S. C. B.	Fogelsville,	Pennsylvania.
FROWERT, CHAS. G.	Philadelphia,	Pennsylvania.

NAME.	RESIDENCE.	STATE.
GILLIARD, LOUIS E.	Philadelphia,	Pennsylvania.
GILTNER, W. P. D.	Portland,	Oregon.
GOLDSBOROUGH, CHAS. B.	Philadelphia,	Pennsylvania.
GUIÉRAS, DANIEL M.	Matanzas,	Cuba.
GUIÉRAS, JOHN	Matanzas,	Cuba.
GUTH, NATHANIEL C. E.	Perkasie,	Pennsylvania.
HALL, L. B.	Windsor,	Vermont.
HAND, FRANCIS C.	Philadelphia,	Pennsylvania.
HARTMANN, LOUIS P.	Philadelphia,	Pennsylvania.
HAWKES, WM. H.	Cotuit Port,	Massachusetts.
HAYNES, JOHN R.	Philadelphia,	Pennsylvania.
HEENAN, THOS. (M.D.)	Philadelphia,	Pennsylvania.
HINTON, R. K.	Brookville,	Mississippi.
HOLBROOK, CHAS. N. (M.D.)	Philadelphia,	Pennsylvania.
HOPKINS, WM. BARTON	Philadelphia,	Pennsylvania.
HOUSKEEPER, FRANK P.	Chestnut Level,	Pennsylvania.
IVISON, JOHN	Philadelphia,	Pennsylvania.
JEFFRIES, T. NORVAL	Frankford,	Pennsylvania.
JUSTIN, J. G.	Philadelphia,	Pennsylvania.
KEATING, JOHN M. (M.D.)	Philadelphia,	Pennsylvania.
KERR, GEORGE (M.D., Ph.D.)	Philadelphia,	Pennsylvania.
KIRKERIDE, M. FRANK	Philadelphia,	Pennsylvania.
KLAPP, WILLIAM H.	Philadelphia,	Pennsylvania.
LAUTENBACH, BENJ. FRANKLIN	Philadelphia,	Pennsylvania.
LEWIS, BENAIAB L. (M.D.)	Vernon,	Delaware.
LEWIS, MORRIS J.	Philadelphia,	Pennsylvania.
LINN, G. WILDS (M.D.)	Philadelphia,	Pennsylvania.
MACFARLANE, ANDREW	Philadelphia,	Pennsylvania.
MARTINEZ, F. J. (M.D.)	Guayaquil,	Ecuador.
MATTESON, CHAS. C.	Chicago,	Illinois.
MEIGS, W. M.	Philadelphia,	Pennsylvania.
MERRILL, JAMES C.	Boston,	Massachusetts.
MINNICH, F. J. A. (M.D.)	Catasauqua,	Pennsylvania.
MORRIS, SPENCER (M.D.)	Mt. Morris,	Pennsylvania.
MCCAULEY, JAS. A. (M.D.)	Philadelphia,	Pennsylvania.
MCDANIEL, J. H.	Centreville,	Texas.
MCDONALD, A. A.	Minneapolis,	Minnesota.
McKENNAN, HARRY S.	Washington,	Pennsylvania.

NAME.	RESIDENCE.	STATE.
NEILL, HOLLINGSWORTH	Philadelphia,	Pennsylvania.
PAINE, CHAS. F. (M.D.)	Troy,	Pennsylvania.
PARRISH, S. FRANKLIN	Philadelphia,	Pennsylvania.
PARTENHEIMER, JOHN R. (M.D.)	Philadelphia,	Pennsylvania.
PERDUE, W. R.	London Grove,	Pennsylvania.
POPE, LEWIS E.	Memphis,	Tennessee.
PRIESTLEY, JAS. T.	Northumberland,	Pennsylvania.
RADEBAUGH, J. M. (M.D.)	Gettysburg,	Pennsylvania.
RAMIREZ, FRANK P.	Santiago de Cuba,	Cuba.
RAMIREZ, RAFAEL A.	Santiago de Cuba,	Cuba.
RANCK, JNO. W. (M.D.)	Philadelphia,	Pennsylvania.
RAUB, JOS. M.	Belvidere,	New Jersey.
REED, HENRY B. (M.D.)	Philadelphia,	Pennsylvania.
RICHARDSON, D. D.	Philadelphia,	Virginia.
ROBB, WM. H.	Gallatin,	Tennessee.
ROGERS, FRANCIS J. (M.D.)	Warren,	Rhode Island.
RUDDEROW, B. J.	Oaks P. O.	Pennsylvania.
SALINAS, V. GONZALEZ	Monclova,	Mexico.
SEESE, S. P.	North Wales,	Pennsylvania.
SHILLING, GEO. W.	Sharon,	Pennsylvania.
SIMPSON, ROBERT	Philadelphia,	Pennsylvania.
SMITH, HARRY A.	Philadelphia,	Pennsylvania.
STAHLY, G. D.	Easton,	Pennsylvania.
STEPHENSON, F. B.	Philadelphia,	Pennsylvania.
STILES, EDWARD, JR. (M.D.)	Philadelphia,	Pennsylvania.
STROUP, GEO. H.	Philadelphia,	Pennsylvania.
TAYLOR, JNO. L. H.	Memphis,	Tennessee.
TOBOLDT, A. L. A. (M.D.)	Philadelphia,	Pennsylvania.
VERNON, GEO. R.	Kellyville,	Pennsylvania.
VOGLER, G. W.	Philadelphia,	Pennsylvania.
WALSH, J. FRANCIS	Camden,	New Jersey.
WELDIN, CHAS. E. (M.D.)	Newport,	Delaware.
WHELEN, ALFRED	Philadelphia,	Pennsylvania.
WILLARD, R., JR.	Haddonfield,	New Jersey.
WOODS, MATTHEW (M.D.)	Philadelphia,	Pennsylvania.
YOCUM, B. B. (M.D.)	Philadelphia,	Pennsylvania.

TOTAL, 101.

LAW DEPARTMENT.

P. PEMBERTON MORRIS, A.M., *Professor of Practice, Pleading, and Evidence at Law and in Equity.*

HON. J. I. CLARK HARE, LL.D., *Professor of the Institutes of Law, including, inter alia, International, Constitutional, and Commercial Law.*

E. COPPÉE MITCHELL, A.M., *Dean of the Faculty, and Professor of the Law of Real Estate and Conveyancing, and Equity Jurisprudence.*

JAMES PARSONS, A.M., *Professor of the Law of Personal Relations and Personal Property.*

JOHN J. REESE, M.D., *Professor of Medical Jurisprudence.*

On the 6th of January, 1874, the Board of Trustees reorganized the Law Department according to the following plan—

- “ There shall be instituted two new Professorships, one to be called of Personal Relations and Personal Property, and the other of Medical Jurisprudence. The Faculty shall then be composed as follows :—
- “ 1. A Professor of the Institutes of Law, to whom shall be assigned the subjects of International Law, Constitutional Law, Conflict of Laws, Criminal Law, Contracts, including Promissory Notes and Bills of Exchange, Suretyship and Guaranty.
- “ 2. A Professor of Personal Relations and Personal Property, to whom shall be assigned the subjects of Personal Relations, Corporations, Agency, Partnership, Insurance, Title to Personal Property, Contracts of Sale, Bills of Lading, Bailment, Common Carriers, Pledges and Chattel Mortgages, Executors and Administrators.
- “ 3. A Professor of Real Estate, Conveyancing, and Equity Jurisprudence, to whom these subjects shall be assigned.
- “ 4. A Professor of Practice, Pleading, and Evidence at Law and in Equity, to whom these subjects shall be assigned.
- “ 5. A Professor of Medical Jurisprudence, to whom that subject shall be assigned.
- “ There shall be two terms in each year, from October to January and from February to May inclusive. The full course shall be two years ; each Professor shall arrange the subjects committed to him in such order as he may deem most expedient, and the same shall be published in the Catalogue.

- “Attendance upon the full course (except the Lectures of the Professor of Medical Jurisprudence) shall be necessary to obtain the Degree of Bachelor of Laws. The fee for attendance upon the Lectures of the Professors (except the Professor of Medical Jurisprudence) shall be determined by them, shall be paid to the Dean of the Faculty, and divided by him among the said four Professors in the proportion of the number of Lectures delivered by each respectively.
- “Any one of the Professors, including the Professor of Medical Jurisprudence, may issue tickets for his own course alone for such fee as he shall determine.
- “Examinations, moot courts, and other exercises to be in the discretion of the Professors respectively.
- “A hall shall be assigned for the exclusive use of the Law Department in the University Building by the Committee on Buildings in conjunction with the Committee on the Law Department, where the Lectures shall be delivered, which hall shall be open for the use of the students for the purpose of pursuing their studies in private, at such hours and under such regulations as the Law Faculty shall determine.”

It is the design of this Department to aid in preparing gentlemen for admission to the Bar, and, also, to offer to those who have not the Bar in view an opportunity of acquiring knowledge in any one or all of the branches of legal learning. The Conveyancer and the Merchant may attend, with profit, the particular lectures appropriate to their respective pursuits.

Students may matriculate at any stage of their professional preparation. They are not examined for matriculation, nor is it possible to require, peremptorily, a college degree, or any previous line of study. This must be left to circumstances, to the views of the student, and to the influences which control him.

Instruction is conveyed by lectures, and by books and portions of books upon the subjects of the lectures, which are recommended by the Professors. The students are frequently and carefully examined. Moot courts are held, at which questions are argued. And the Law Academy of Philadelphia, an institution of long standing, to which not only students, but many practising lawyers belong, gives opportunity for debate and argument which has been found of the greatest practical advantage.

The Supreme Court of Pennsylvania, the County Courts, and the Federal Courts are in session in Philadelphia during a great part of the year, so that students can have ample facilities for observing judicial proceedings.

There are two terms each year. The first term begins on the first of October, the second on the first of February. Each term continues four months. From the first day of June to the first of October is vacation. The course is so arranged that a student entering at the commencement of any October term will complete his term of study in two academical years.

The Tuition Fee for the full course with all the Professors (except the Professor of Medical Jurisprudence) is \$40 for each term. Each Professor will issue separate tickets for his own lectures to such students as do not desire to attend the full course. The fee to each Professor for such partial students is ten dollars for each term. Each student taking the full course is required also to pay a matriculation fee of \$5, which will entitle him to a diploma (if he shall receive the degree of Bachelor of Laws), without further charge. There are no other charges made.

Students who have attended four consecutive terms with each Professor (except the Professor of Medical Jurisprudence) may, upon the recommendation of the Faculty, proceed Bachelors of Laws.

Students who have attended any of the Professors without taking the full course, may receive from each Professor certificates of proficiency.

Those who have received the degree of Bachelor of Laws may attend all future lectures free of charge.

Applications for admission, and for information, should be addressed to Professor E. COPPÉE MITCHELL, Dean, 518 Walnut Street, Philadelphia.

ARRANGEMENT OF THE COURSE.

PROFESSOR MORRIS.

First Term, from Oct. 1, 1874, to Feb. 1, 1875, Practice and Pleading at Law.

Second Term, from Feb. 1, 1875, to June 1, 1875, Practice and Pleading at Law.

Third Term, from Oct. 1, 1875, to Feb. 1, 1876, Evidence.

Fourth Term, from Feb. 1, 1876, to June 1, 1876, Practice and Pleading in Equity.

PROFESSOR HARE.

First term, as above,	Contracts, Bills of Exchange and Promissory Notes, and Bills of Lading.
Second term, as above,	Suretyship and Guaranty.
Third term, as above.	Insurance (Fire and Marine) and Constitutional Law.
Fourth term, as above.	Conflict of Laws, and Criminal Law.

PROFESSOR MITCHELL.

First Term, as above,	Real Estate.
Second term, as above,	Conveyancing.
Third term, as above,	Equity Jurisprudence.
Fourth term, as above,	Equity Jurisprudence.

PROFESSOR PARSONS.

First term, as above,	Domestic Relations ; Executors and Administrators.
Second term, as above,	Title to Personal Property ; Civil Law, and Contract of Sale.
Third term, as above,	Agency, Partnership, Corporations, and International Law.
Fourth term, as above,	International Law (concluded.) Bailment, Common Carriers, Pledges, Chattel Mortgages, and Life Insurance.

PROFESSOR REESE

Will deliver the Course of Lectures on Medical Jurisprudence, each year, beginning about the 15th of March, and ending about the 15th of June.

LAW DEPARTMENT—CLASS OF 1873-74.

NAME.	PRECEPTOR.	RESIDENCE.
ALCORN, JAMES	G. D. Budd.	Philadelphia.
BARR, WILLIAM J.	E. C. Mitchell.	"
BAIRD, R. LOPE	Peter McCall.	"
BIDDLE, WALTER L. C.	Chapman Biddle.	"
BOOTH, GEO. M.		"
BOYLE, J. PEYTON	518 Walnut Street.	"
BROADHURST, JOSEPH J.	D. N. Fell.	Buckingham, Bucks Co., Pa.
BURROUGHS, JOSEPH H.	J. S. Price.	Philadelphia.
CARVER, CHARLES	P. P. Morris.	"
CARVER, J. HENRY	G. W. Biddle.	"
CARSON, HAMPTON L.	W. M. Tilghman.	"
CASTLE, HORACE	P. P. Morris.	"
CONROW, GEORGE E. B.	Earle & White.	"
DARRACH, HENRY	3623 Locust Street.	"
DRAYTON, WILLIAM	W. H. Drayton.	"
DUBOIS, HARRISON D.	Joseph L. Caven.	"
EBY, JOHN D.	W. J. Budd.	"
GIBBONS, CHARLES J.	C. Gibbons.	"
GOODWIN, HAROLD	E. S. Miller.	"
GILPIN, HOOD	C. Gilpin.	"
HARRIS, HENRY G.	J. L. Shoemaker.	"
HALDORN, G.	R. H. McGrath.	"
HOAGLAND, AMOS H.	M. S. McCullough.	"
HOPKINSON, EDWARD	P. McCall.	"
HOPKINSON, JOSEPH	F. Sheppard.	"
HOECKLEY, ALBERT H.	E. Hopper.	"
HARNED, THOS. B.	C. T. Reed.	Camden, N. J.
JONES, JOSEPH L.	T. J. Barger.	Philadelphia.
KLINGES, J. PETER	E. C. Quinn.	"

NAME.	PRECEPTOR.	RESIDENCE.
LEEDOM, JOSEPH	D. Webster.	Montgomery Co., Pa.
LEISER, ANDREW A.	J. T. Baker.	Lewisburg, Pa.
LEE, JR., ALFRED	E. C. Mitchell.	Philadelphia.
MARR, FRANK	Linn & Dill.	Lewisburg, Pa.
MCCLEES, HARRY L.	J. A. Clay.	Philadelphia.
MURPHY, WM. R.	T. J. Diehl.	"
NAGLE, E. J.		
NEILSON, ROBERT H.	E. S. Miller.	"
OLMSTED, HENRY C	E. Olmsted.	"
PROSSER, THOMAS B.	W. E. Littleton.	"
PRICHARD, FRANK P.	A. M. Burton.	"
PHILLIPS, ALFRED I.	E. C. Mitchell.	"
REX, WALTER E.	F. Wolfe.	"
SINN, JOSEPH A.	G. H. Earle.	"
SMITH, WM. R.	J. C. Bullitt.	"
STEIN, CHARLES C.	524 Walnut Street.	"
SIMPERS, ROBERT N.	Chapman Biddle.	"
SIMPSON, LOUIS M.	S. Hood.	"
TAYLOR, CHARLES T.	G. Junkin.	"
TINDEL, ADAM	D. Dougherty.	"
TINDALL, JOSEPH R.	C. J. Bonsall.	"
TOWNSEND, JAMES P.	J. B. Townsend.	"
TOWNSEND, FRANKLIN	H. C. Townsend.	"
WAGNER, WILLIAM L.	C. M. Wagner.	"
WALSH, WILLIAM S.	Law Library.	Camden, N. J.
WARD, FLEETWOOD	W. W. Ledyard.	Philadelphia.
WILLIAMSON, WM. VON A.	P. McCall.	"
YARROW, JOHN D.	T. J. Diehl.	"
ZANTZINGER, ERNEST	G. M. Conarroe.	"
		TOTAL, 58.

RECAPITULATION.

PROFESSORS.

Department of Arts	12
“ “ Science	13
“ “ Medicine	7
“ “ “ (Auxiliary Faculty)	5
“ “ “ (Hospital)	10
“ “ Law	5
Emeritus Professors	2
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	54

LECTURERS, INSTRUCTORS, ETC

Department of Science	3
University Hospital	3
	<hr/>
	6

TEACHERS

In Charity Schools	4
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STUDENTS.

Department of Arts	89
“ “ Science	126
“ “ Medicine	385
“ “ “ (Auxiliary)	101
“ “ Law	58
Charity (English) Schools	136
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Total	895

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.

At a Public Commencement, held Thursday, March 13, 1873, at the American Academy of Music, the Degree of DOCTOR OF MEDICINE was conferred by CHARLES J. STILLÉ, LL.D., Provost, upon the following gentlemen; after which an address was delivered by FRANCIS G. SMITH, M.D., Professor of the Institutes of Medicine.

NAME.	POST-OFFICE.	STATE.
BAGG, JOHN SULLIVAN	West Springfield.	Massachusetts.
BAKER, WESTWOOD JAMES	Courtland.	Alabama.
BARWIS, ELMER	Morrisville.	Pennsylvania.
BELFORD, CHARLES S.	Mauch Chunk.	Pennsylvania.
BELL, WILLIAM A.	Winchester.	Virginia.
BINKLEY, GEORGE K.	Leesport.	Pennsylvania.
BOWKER, JAMES	Philadelphia.	Pennsylvania.
BRITTON, CHARLES POTTS	Trenton.	New Jersey.
BRUEN, EDWARD TUNIS	Philadelphia.	Pennsylvania.
CAMERON, SYLVESTER B.	Philadelphia.	Pennsylvania.
CARTER, HERBERT RICHARD	Point de Bute.	New Brunswick.
CHRISMAN, ZACHARY TAYLOR	Marsh.	Pennsylvania.
COLE, GEORGE ALBERT	Hawley.	Pennsylvania.
DEPPEN, JOSEPH FRANCIS	Bernville.	Pennsylvania.
DETWILLER, JOHN WILLIAM	Bethlehem.	Pennsylvania.
DINSMORE, PETER ANDREW	West Bangor.	Pennsylvania.
EARLY, JOHN ADAM	West Hanover.	Pennsylvania.
EISENBERG, PHILIP Y.	Bridgeport.	Pennsylvania.
ERSKINE, STERLING	Philadelphia.	Pennsylvania.
ESSIG, HENRY, JR.	Plattsburg.	Missouri.
ESTRAZULAS, HENRY M.	Montevideo.	Uruguay, S. A.
EVERTON, JAMES S.	Philadelphia.	Pennsylvania.

NAME.	POST-OFFICE.	STATE.
FELTY, JOHN C.	Gettysburg.	Pennsylvania.
FREEMAN, EDWARD J.	Freemansburg.	Pennsylvania.
GOESSLING, FREDERICK	Philadelphia.	Pennsylvania.
GUITERAS JUAN Y GENER	Matanzas.	Cuba, W. I.
GULLEDGE, REUBEN W.	Durant.	Mississippi.
GUTH, NATHANIEL C. E.	Litzenberg.	Pennsylvania.
GUTHRIE, GEORGE W.	Guthrieville.	Pennsylvania.
HALL, LYCORTAS B.	Windsor.	Vermont.
HARVEY, OLIN FRISBIE	Wilkes Barre.	Pennsylvania.
HEILMAN, ISRAEL	Litzenberg.	Pennsylvania.
HENKEL, MILLER ABRAHAM	New Market.	Virginia.
HOLBROOK, CHARLES N.	Philadelphia.	Pennsylvania.
HOOT, JAMES P.	Gwynedd.	Pennsylvania.
HORSTMANN, HENRY F.	Philadelphia.	Pennsylvania.
HUGHES, WILLIAM L. T.	Bedford.	Pennsylvania.
HUNTER, JOSEPH C.	Princeton.	Iowa.
JOHNSON, JOSEPH H.	Bucks.	Pennsylvania.
JORDAN, JAMES BASCOM	Dublin.	Virginia.
KEATING, JOHN M.	Philadelphia.	Pennsylvania.
KOHLER, JOHN B.	Trappe.	Pennsylvania.
KOSER, SIMON S.	Shippensburg.	Pennsylvania.
LAMSON, GEORGE HENRY	Paris.	France.
LESH, MATTHEW GEORGE	Snyderville.	Pennsylvania.
LEWIS, BENAIAH LUFF	Vernon.	Delaware.
LEWIS, WALTER HIBBARD	Huntsville.	Indiana.
LIVINGOOD, JOHN R.	Rossville.	Illinois.
LOOSE, CYRUS A.	Mauch Chunk.	Pennsylvania.
MEARNS, JAMES ALFRED	Brick Meeting-House.	Maryland.
MILLER, CHARLES K. I.	Philadelphia.	Pennsylvania.
MINNICH, FRANK J. A.	Catasauqua.	Pennsylvania.
MCAULEY, JAMES ARTHUR	Philadelphia.	Pennsylvania.
MCBRIDE, WILLIAM ROBERT	Great Shemogin.	New Brunswick.
MCINTIRE CHARLES, JR.	Easton.	Pennsylvania.
MCLEAN, JAMES R.	Amherst.	Nova Scotia.
PAINTER, FRANCIS C.	Liberty Hill.	Virginia.

NAME.	POST-OFFICE.	STATE.
PARK, JOHN B.	White House.	New Jersey.
PENNEBAKER, BENJAMIN	Philadelphia.	Pennsylvania.
PLATT, FREDERICK P. HARPER	Brooklyn.	New York.
PORTEUS, JAMES S.	Seranton.	Pennsylvania.
PUTT, MAURICE OBERLIN	Highspire.	Pennsylvania.
PYLE, EDWIN WOLLASTON	Gum Tree.	Pennsylvania.
QUAINTANCE, OSCAR R.	Slate Mills.	Virginia.
RADEBAUGH, JOHN M.	Gettysburg.	Pennsylvania.
RALSTON, DAVID, JR.	Carlisle.	Pennsylvania.
REED, HENRY B.	Philadelphia.	Pennsylvania.
REESE, CHARLES A.	Sinnemahoning.	Pennsylvania.
REESE, DAVID J.	Renovo.	Pennsylvania.
ROCKWELL, OSCAR H.	Monroeton.	Pennsylvania.
ROGERS, FRANCIS J.	Warren.	Rhode Island.
RUSH, WILLIAM H.	Philadelphia.	Pennsylvania.
SCHENCK, JOHN G.	Princeton.	New Jersey.
SCOTT, JOHN MCPHERSON	Hagerstown.	Maryland.
SHERK, LEVI A.	Jonestown.	Pennsylvania.
SHERWOOD, ALFRED C.	Union City.	Pennsylvania.
SNYDER, WILLIAM PRESTON	Spring City.	Pennsylvania.
STEELE, JOHN MURRAY	Owensville.	Maryland.
STEPHENSON, FRANKLIN BACHE	Mercer.	Pennsylvania.
STILLWELL, WALTER C.	Philadelphia.	Pennsylvania.
STUMP, GEORGE M.	Perryville.	Maryland.
THOMPSON, THOMAS DICK	Lyons Station.	Pennsylvania.
TOBOLDT, ALBERT L. A.	Philadelphia.	Pennsylvania.
TRUMAN, THADDEUS F.	Butternuts.	New York.
VAN ETEN, CORNELIUS S.	Milford.	Pennsylvania.
VEATCH, NICHOLAS S.	California.	Pennsylvania.
WALES, THERON AUGUSTUS	Elmira.	New York.
WALKER, JOHN THOMAS	Philadelphia.	Pennsylvania.
WATSON, JAMES F.	Foster.	Kentucky.
WEAVER, JOHN H.	Altoona.	Pennsylvania.
WHITE, JAMES W.	Philadelphia.	Pennsylvania.
WILLIAMS, BRADY O'NEILL	New Martinsville.	West Virginia.
WING, EDGAR DUMONT	Troy.	Missouri.

NAME.	POST-OFFICE.	STATE.
WING, THEODORE TYLER	Susquehanna Depot.	Pennsylvania.
WOLF, SAMUEL, JR.	Hilltown.	Pennsylvania.
WOODS, MATTHEW	Philadelphia.	Pennsylvania.
WYTHE, WILLIAM T.	Sacramento.	California.
YORGEY, LEWIS C. B.	Pottstown.	Pennsylvania.
YOUNG, PETER CASE	Ringoes.	New Jersey.

At the COMMENCEMENT in JUNE, 1873, the Degree of

BACHELOR OF ARTS

was conferred upon the following members of the Senior Class :—

Henry C. Adams,	Alfred Lee, Jr.,
Robert Andersen,	Henry C. Lewis,
William M. Barker,	Randal Morgan,
Theo. D. F. Beck,	Joseph S. Neff,
Edward J. Bell,	Rudolph L. Neff,
Gustavus S. Benson, Jr.,	Alex. B. Porter,
Samuel T. Bodine, Jr.,	Robert M. Smith,
Robert Bond,	Walter G. Smith,
William Boyd, Jr.,	Theophilus B. Stork,
John W. Brock,	Harry R. Wharton,
William W. Carr,	William F. Whitaker,
Frederick B. Esler,	Bernard H. Wood.
Alex. E. Harvey, Jr.,	

The Degree of

BACHELOR OF SCIENCE

upon :—

Charles A. Besson,	Charles P. Keith,
Joseph C. Egbert,	Henry Pleasants, Jr.,
Hugh J. Fagen,	Coleman Sellers, Jr.,
James L. Fisher,	Lester Wills,
Percival H. Hickman,	Charles A. Young.
Howard G. Jones,	

The Degree of

MASTER OF ARTS

upon the following Graduates of three years' standing (1870) :—

Francis E. Brewster,	Charles A. March,
John M. Campbell,	George F. Martin,
George M. Christian,	Alex. J. Miller,
Harold Goodwin,	William D. Neilson,
William W. Griscom,	Francis F. Rowland,
George K. Hunter,	Henry G. Ward.
Robert M. Huston,	

The Degree of

BACHELOR OF LAW

was conferred (in course) upon :—

James E. Clark,	David N. Rose,
Alonza P. Douglass,	James B. Cope,
Samuel P. Hanson,	Eugene A. Brown,
Stanislaus Remak,	Herman Ohly.

The Degree of

DOCTOR OF PHILOSOPHY

was conferred upon the following Doctors of Medicine:—

Edward Tunis Bruen, M.D.,

John B. Partenheimer, M.D.,

Juan Guiteras y Gener, M.D.,

Spencer Morris, M.D.

Fred. P. Harper Platt, M.D.,

The Honorary Degree of

DOCTOR OF DIVINITY

was conferred upon

Rev. James W. Robins.

The Honorary Degree of

DOCTOR OF LAWS

was conferred upon

Rev. George Emlen Hare, D.D.,

Hon. W. K. Pendleton.

COLLEGE DISTINCTIONS AWARDED DURING THE YEAR 1872-73.

DEPARTMENT OF ARTS.

At the examination of the Senior Class for Degrees the following members of the class were ascertained to have reached the first class of distinctions :—

- | | |
|----------------------------|------------------------------------|
| 1. William Force Whitaker, | 3. Theodore Daniel Frederick Beck, |
| 2. William Boyd, Jr., | 4. Henry Carvill Lewis. |

At the Annual Examination, 1873, the following Students were found to have reached the first class of distinctions in their respective classes :—

JUNIORS.

SOPHOMORES.

- | | |
|--------------------------|-------------------|
| 1. William James Martin, | 2. Carroll Smyth. |
|--------------------------|-------------------|

FRESHMEN.

- | | |
|-------------------------------------|------------------------|
| 1. George Christian Frederick Haas, | 2. Lawrence Lewis, Jr. |
|-------------------------------------|------------------------|

PRIZES for voluntary exercises. over and above the regular course, were awarded as follows :—

In the Department of Intellectual and Moral Philosophy: In the Junior Class, for the best Essay on “*The Special Importance of Philosophical Study in our own Day*,” to LOUIS FITZGERALD BENSON.

In the Department of Greek Language and Literature: In the Senior Class, for the best Examination in “*Demosthenes on the Crown*,” read with the Professor in addition to the regular course—equally to WILLIAM BOYD, JR., and WILLIAM FORCE WHITAKER.

In the Junior Class, for the best examination upon the “*Oration of Æschines on the Crown*,” read with the Adjunct Professor in addition to the regular course—to NALBRO’ FRAZIER ROBINSON.

In the Freshman Class, for the best Examination in “*Greek Prose Composition with the Accents*”—to GEORGE CHRISTIAN FREDERICK HAAS.

In the Department of History and English Literature: Senior Prize for the best Essay on “*The Manufacture of Iron as an Element in the History of Civilization*,” to THEOPHILUS BAKER STORK.

The Sophomore Prize for the best *Original Declamation*, to JOHN WILLIAM TOWNSEND.

The *Matriculate Greek Prize*, for the best examination by a member of the Freshman Class, immediately after his admission to College, upon the "*Elements of Greek Prose Composition*"—to GEORGE CHRISTIAN FREDERICK HAAS.

"The *Alumni Prize*," for the best Latin Essay by a member of the Graduating Class—to WILLIAM FORCE WHITAKER.

The Junior Prize, founded by the Society of the Alumni, for the best *Original Declamation*, to CHAUNCEY AUGUSTUS BOCKOVEN.

The "*Henry Reed Prize*," for the best English Essay by a member of the Graduating Class, on the subject "*The Comparative Influence of the Sword and the Pen*," to THEOPHILUS BAKER STORK.

The *Prize for Mechanical Drawing in the Scientific Classes* was awarded to WILLIAM FRANK NEWELL, of the Freshman Class.

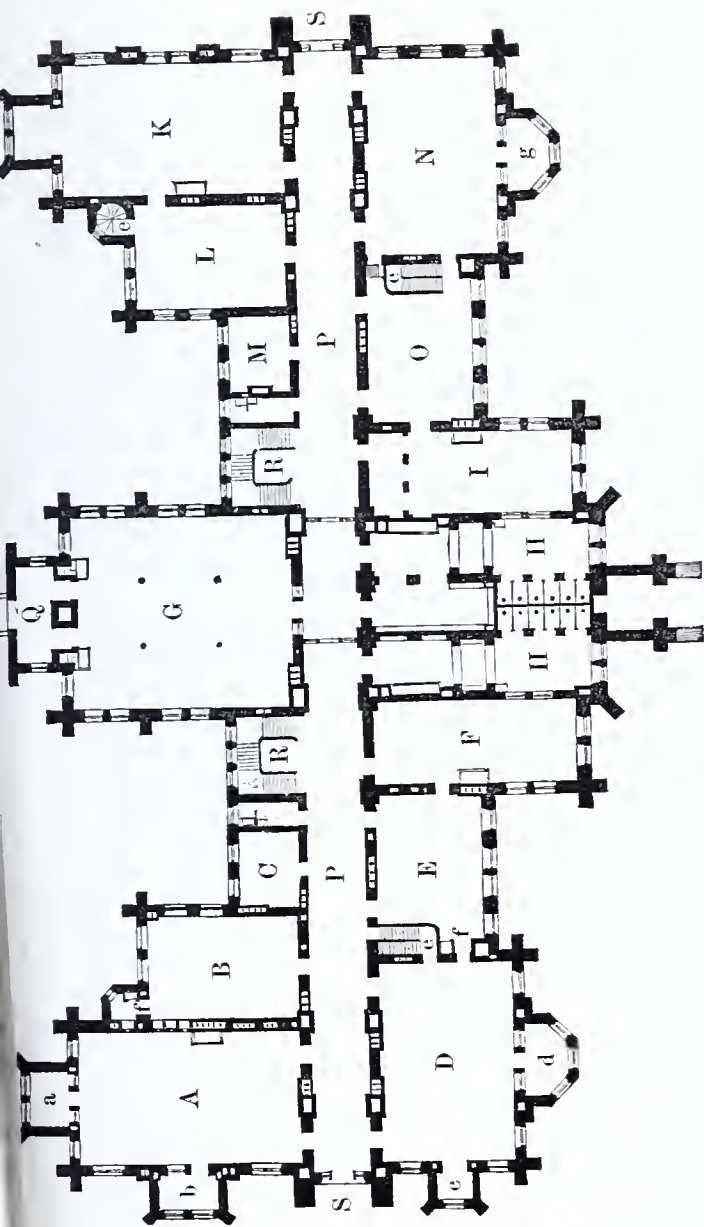
DEPARTMENT OF SCIENCE.

At the examination of the Senior Class for Degrees the following members of the class were ascertained to have reached the first class of distinctions :—

1. Coleman Sellers, Jr.
2. Percival Holl Hickman.

At the annual examination, 1873, the following student was found to have attained the first distinction in the Sophomore Class.

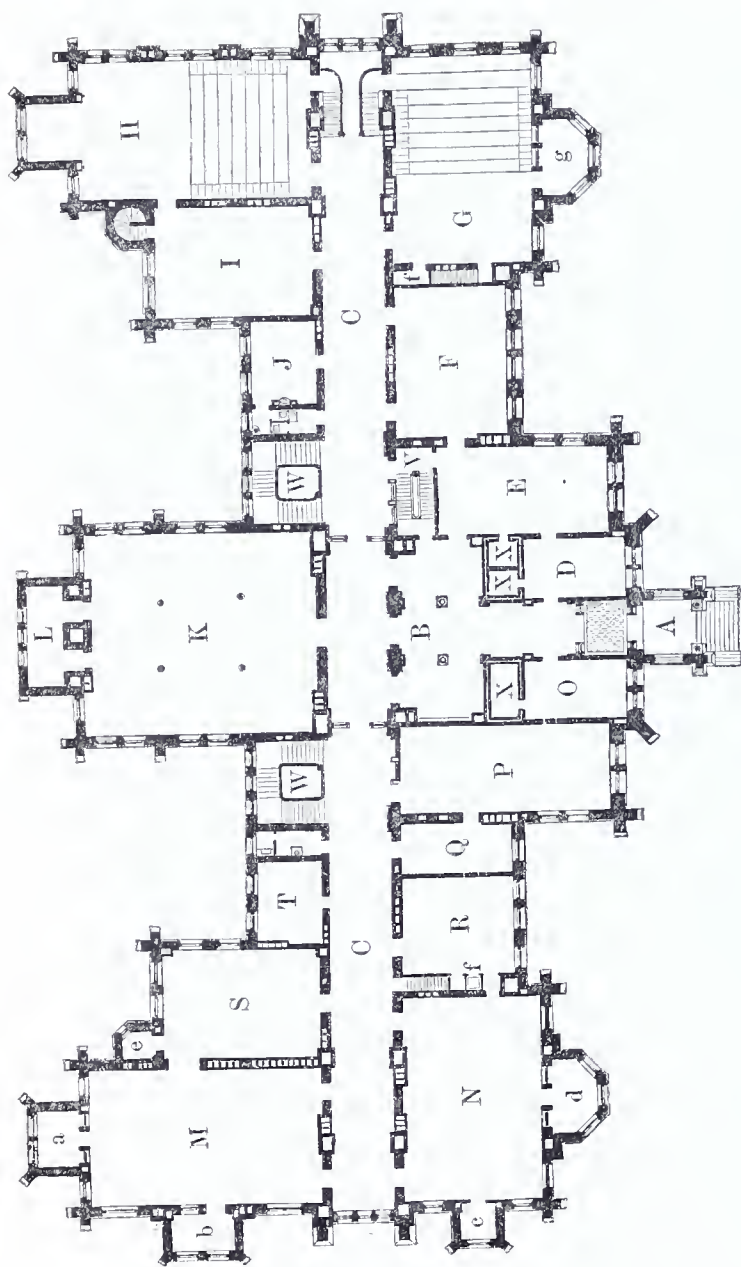
Henry Harrison Supplee.



PLAN OF BASEMENT.

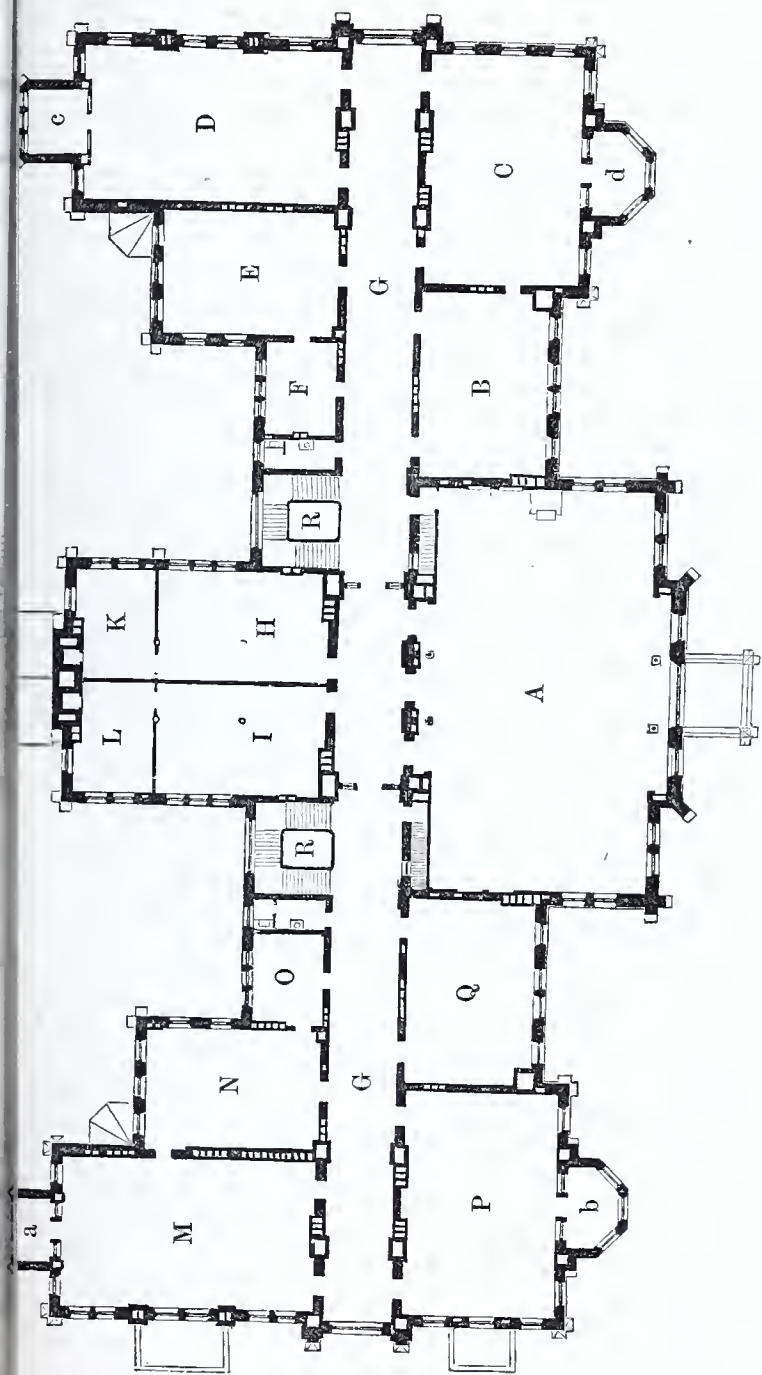
- A. Metallurgical Laboratory
- B. Furnace Room.
- C. Balance Room.
- D. Machinery and Work Room.
- E. Store and Apparatus Room.
- F. Janitor.
- G. Assembly Room.
- H. Water Closets.
- I. Store Room.

- K. Physical Laboratory.
- L. Store Room—Department of Physics
- M. Janitor.
- N. Preparing Laboratory—Chemistry.
- O. Store Room—Department of do.
- P. Corridor.
- R. Main Stairway.
- a, b, c, d, e, g. Assistants' Rooms.



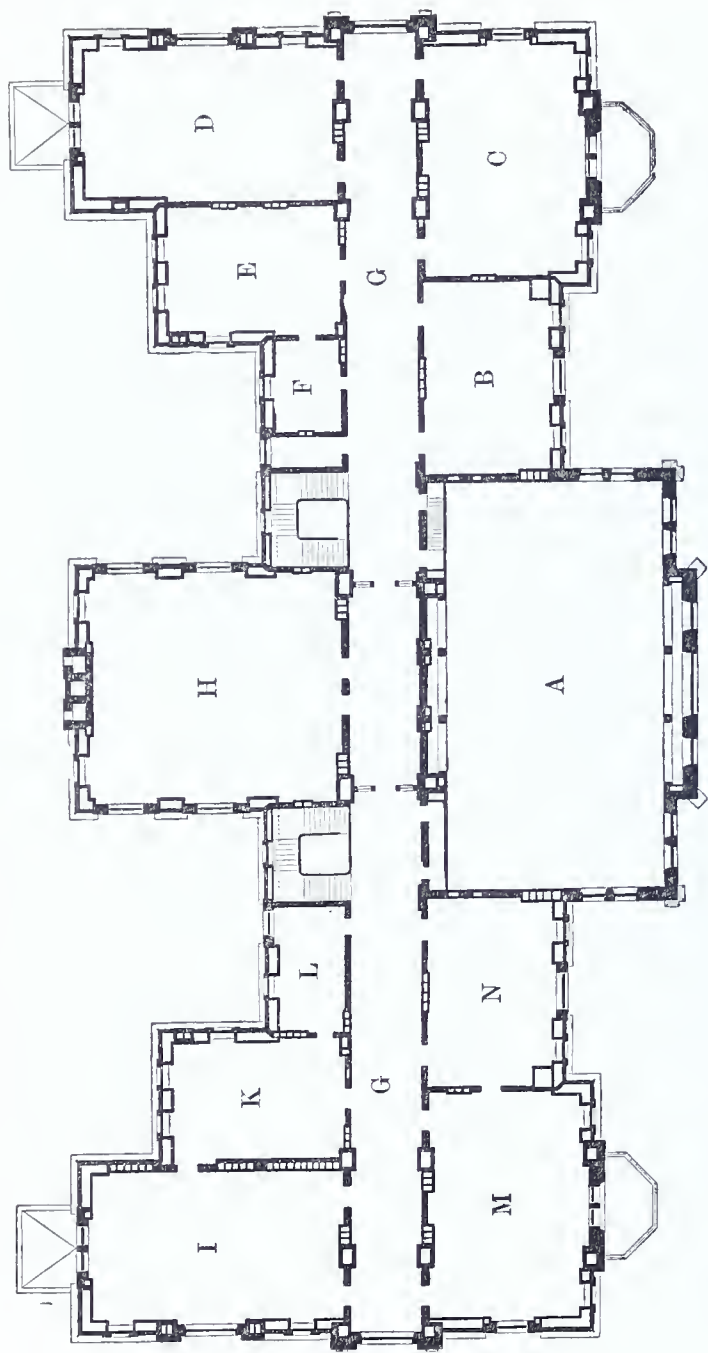
PLAN OF FIRST FLOOR.

- | | | |
|--|---|---------------------------------------|
| A. Porch. | K. Library. | P. Professors' Private Laboratory. |
| B. Hall. | M. Quantitative Laboratory. | Q. Balance Room. |
| C. Corridor. | N. Qualitative do. | R. Room for Preparation of Chemicals. |
| D. Office of the Secretary of the Board of Trustees. | O. Office of the Dean of the Faculty—Department of Science. | S. Laboratory for Organic Analysis. |
| E. Trustees and Faculty Room. | | T. Balance Room. |
| F. Provost's Lecture Room. | | |
| G. Chemical Lecture Room. | | |
| H. Lecture Room—Physics. | | |
| I. Apparatus Room—Physics. | | |



PLAN OF SECOND FLOOR.

- A. Chapel.
 B. Instructor in Mathematics.
 C. Professor of Mathematics.
 D. Professor of Latin.
 E. Professor of Greek.
 F. Private Rooms.
 G. Corridor.
 H. Adjunct Professor of History.
 I. Professor of Intellectual and Moral Philosophy.
 K. L. Private Rooms.
 M. Museum—Geology and Mining.
 N. Lecture Room—Geology and Mining.
 O. Private Rooms—Geology and Mining.
 P. Cabinet of Minerals.
 Q. Drawing Room—Geology and Mining.
 R. Main Stairway.
 a, b, d. Assistants' Rooms.



PLAN OF THIRD FLOOR.

- A. Upper Part of Chapel.
 B. Professor of Rhetoric and Oratory.
 C. Assistant Professor of Mathematics.
 D. Professor of French.
 E. Professor of German.
 F. Private Room.
 G. Corridor.
 H. Examination Hall.
 I, K. Department of Mechanical and Civil Engineering.
 L. Work and Model Room do.
 M, N. Drawing and Architecture.





UNIVERSITY OF PENNSYLVANIA.
COLLEGIATE AND SCIENTIFIC DEPARTMENTS.